P.O. Box 85518
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Keeping Good Company

RackSolutions Serves The World's Largest Data Centers

In an exciting industry where competition is tough, and the best separate themselves from the rest, RackSolutions has excelled as the preeminent data center infrastructure provider for SoftLayer, one of the world's largest data center providers, and Rackspace, the world's service leader in cloud computing.

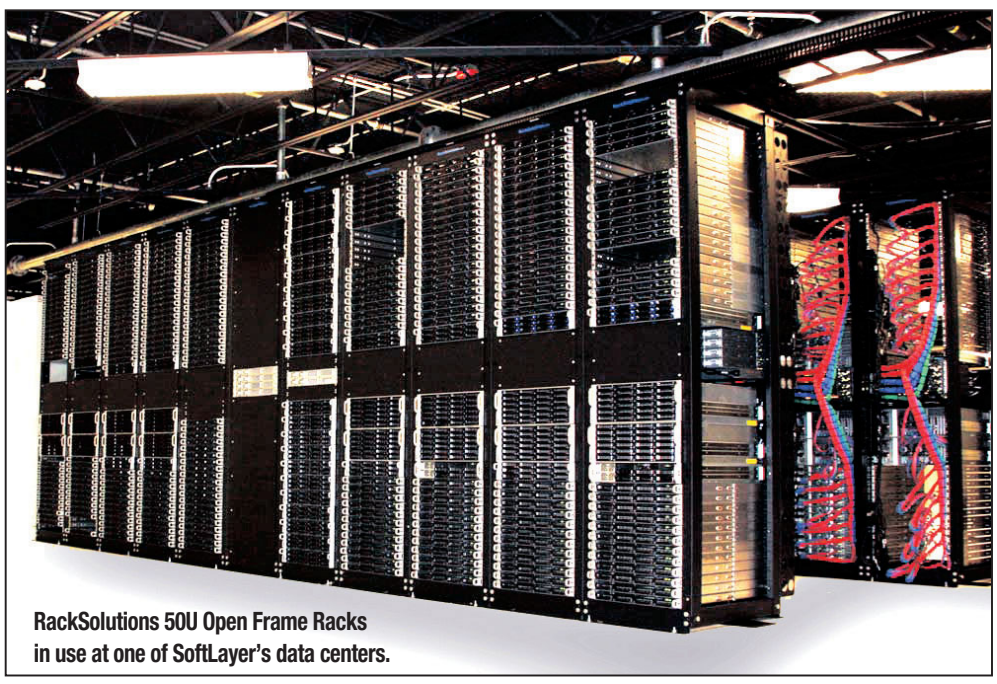
"When companies the size and caliber of SoftLayer and RackSpace continue to place their trust in us and our distributors, it puts a healthy pressure on our design and development team to continue to produce products that will exceed their expectations," says Dennis Feeney, vice president of RackSolutions. "We know they rely on us to get it right, especially when requirements are precise and deadlines are tight," Feeney says.

Racks for Data Centers

SoftLayer and Rackspace have been going to RackSolutions for their rack mounting needs for a number of years. "RackSolutions' quick turnaround time on racks and custom components has helped to support SoftLayer's exponential growth at multiple domestic and international sites," says Joshua Rushe, vice president of operations at SoftLayer.

During the past few years, RackSolutions has designed and built thousands of custom racks for SoftLayer and Rackspace. In fact, the rack maker's 55U Open Frame Rack came about as a result of a special request from Rackspace. "They needed a taller rack to hold more equipment in one of their facilities without increasing the footprint. So, our design and manufacturing teams went to work to create one," Feeney says.

The 55U has become an obvious choice for data centers, and why wouldn't it be? It provides 30% more vertical room for racking equipment than a 42U without taking up any additional floor space. SoftLayer evidently agreed. It has made use of the taller, 55U racks in several of its data centers as well. Recently, RackSolutions developed an even taller rack, a 58U, after receiving a special request to build one. RackSolutions presented the idea to its engineers, and they came up with a design in a just a couple of days. The enormous racks were then built and shipped to the customer on schedule. "The 58U is ideal for high-density deployments, including cloud and virtualization environments. Plus, these open frame racks are very competitively priced," Feeney says.



RackSolutions 50U Open Frame Racks in use at one of SoftLayer's data centers.

SOFTLAYER®

Founded in 2005, SoftLayer, the largest privately owned hosting company in the world, is headquartered in Dallas (RackSolutions is located less than an hour away in Greenville, Texas) and offers 13 world-class, global data centers and 16 additional network Points of Presence worldwide. SoftLayer houses approximately 100,000 active servers, and the company services 26,000 customers in 140+ countries.

rackspace® HOSTING

Founded in 1998 in San Antonio, Texas, Rackspace hosting services are supported by 9 data centers located in the United States, UK, and Hong Kong. Rackspace houses 78,717 servers, according to a November 2011 report from Reuters.

Not Just Racks

RackSolutions builds much more than just racks. For example, when SoftLayer needed mounting rails for thousands of 2U and 4U servers, RackSolutions created high-quality, custom, low-cost rails for both server sizes. "RackSolutions' flexibility has provided SoftLayer with several custom solutions that allow us to utilize our data center space in the most efficient way possible," Rushe says.

What separates RackSolutions from the competition? Feeney says, "I think the most noteworthy advantages that distinguish us from many other rack companies are that we generate designs quickly, we produce mass volumes right here in our U.S. factory, and we ship on time. So we can handle lots of requests that others can't or that wouldn't make financial sense for them to even consider. We have the luxury of managing all aspects of the business from design to delivery."

Custom Creations, Everyday Solutions

RackSolutions has become known for its ability to be creative and responsive when dealing with out-of-the-ordinary requests. In one instance, a leading fast food chain was searching for a way to wall-mount a training laptop in its string of restaurants. In another, the U.S. Navy needed to mount dual monitors and a computer in a small space on board a combat vessel. RackSolutions delivered impressive solutions to each challenge.

Many cases like these have spawned the creation of RackSolutions' off-the-shelf products. RackSolutions stocks hundreds of rackmount parts in its warehouses in Texas, Canada, and the UK. Some of the more coveted parts include replacement server rails for those initially supplied by the OEM. Once the mounting rails reach an "end of life" status, it may become difficult to find replacement rails when you need them. And many people don't realize they need them until the worst possible moment—during an installation project. RackSolutions stocks many replacement rails for Dell, IBM, and HP, and the company has universal rack rails for almost everything else.

RackSolutions also manufactures KVMs, rack shelves, adapter kits and many other products designed to resolve issues and help companies overcome rack-mounting obstacles. The company specializes in 4 post, open frame racks from 24U to 58U, but it also makes 18U to 42U cabinet enclosures. No matter what rack-based problems you may encounter, it's likely that RackSolutions either has a product that will help, or its team can design and build one that will meet your needs and your budget.

Rack Solutions®
www.RackSolutions.com

On Deck

Server Security Unit

Up next from RackSolutions is a new, innovative Server Security Unit, or SSU, which protects servers by locking them in the rack and preventing access to ports, hard drives, and other items. If you have a need to secure a single server within a shared rack, the SSU does just that. "Our SSUs are designed to help provide extra security for sensitive data or to be used as an alternative to colocation cabinets," Feeney says. The unit is designed to accommodate two, 1U servers or one 2U server. P

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1. **What is the size of your company (how many employees)?**
   - ❑ Less than 10
   - ❑ 10 to 99
   - ❑ 100 to 199
   - ❑ 200 to 499
   - ❑ 500 to 999
   - ❑ 1,000+

2. **How often do you purchase computer hardware/software?**
   - ❑ Weekly
   - ❑ Bi-weekly
   - ❑ Monthly
   - ❑ Quarterly
   - ❑ Annually
   - ❑ No Involvement

3. **What is your annual computer hardware/software purchasing budget?**
   - ❑ $0 to $9,999
   - ❑ $10,000 to $24,999
   - ❑ $25,000 to $49,999
   - ❑ $50,000 to $99,999
   - ❑ $100,000 to $249,999
   - ❑ $250,000 to $499,999
   - ❑ $500,000 to $999,000
   - ❑ $1,000,000+

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Editorial Staff
editor@processor.com • (800) 544-1264

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News

iPhone Overtakes BlackBerry As Top Enterprise Smartphone

According to a recent survey from iPass, Apple's iPhone has surpassed RIM's BlackBerry as the No. 1 smartphone used by mobile enterprise employees. The survey encompassed more than 2,300 workers worldwide and found that the iPhone's current share of the smartphone market is 45%, beating out BlackBerrys (32.2%), Android-based devices (21.3%), Symbian/Nokia devices (7.4%), and devices based on Microsoft's Windows Mobile platform (5.5%). iPass also discovered that the iPhone is a key component of respondents' 2012 purchasing plans, with 18% saying they intend to buy iPhones, compared to the 11.2% anticipating an Android purchase and 2.3% planning to buy a BlackBerry. iPass attributes the iPhone's enterprise growth in large part to an increase in BYOD strategies and the consumerization of IT.

Gartner Predicts Increase In Security Services Spending

Worldwide spending in the security services market will increase from $35.1 billion in 2011 to $49.1 billion in 2015, according to research firm Gartner. Leading the growth will be the managed security services—alternately known as IT management—segment of the market, which Gartner expects to grow to $14.9 billion in 2015, up from $8 billion this year. The security consulting segment is also expected to see impressive growth, increasing from $9.6 billion this year to $12.1 billion in three years. Contributing to the growth of managed security services are the roadblocks small to midsized companies experience when establishing 24/7 security coverage.

iPad Tops Most-Wanted List For Tablets, Followed By Kindle Fire

According to ChangeWave Research, 65% of future tablet buyers anticipate purchasing an Apple iPad, and 22% are planning to buy the just-released Kindle Fire from Amazon; coming in at a distant third is Samsung's Galaxy Tab, with only 4% of respondents planning to purchase this device. At 14%, the number of consumers looking to buy a tablet in the next three months isn't particularly sizeable; however, that's up from the 6% of consumers from the previous three months. Despite the Kindle Fire's strong showing, the iPad is still expected to be king of the tablet market: Apple expects to ship about 13 million iPads this quarter, while Amazon is expected to ship 4 million Kindle Fires.

WATCH THE STOCKS

This information provides a quick glimpse of current and historical stock prices and trends for 13 major companies in the technology market.

Company	Symbol	Year Ago	Nov. 10 $	Nov. 23 $	% change from previous issue
AMD	AMD	$7.32	$5.66	$5.05	▼ 10.78%
Apple	AAPL	$308.73	$385.22	$366.99	▼ 4.73%
CA Technologies	CA	$23.09	$21.34	$19.80	▼ 7.22%
Cisco Systems	CSCO	$19.20	$18.61	$17.41	▼ 6.45%
Dell	DELL	$13.82	$14.96	$14.30	▼ 4.41%
Google	GOOG	$583.01	$595.08	$570.11	▼ 4.2%
HP	HPQ	$44.19	$26.76	$25.78	▼ 3.66%
IBM	IBM	$143.18	$183.35	$177.95	▼ 2.95%
Intel	INTC	$21.09	$24.06	$22.70	▼ 5.65%
LinkedIn	LNKD	n/a	$76.95	$66	▼ 14.23%
Microsoft	MSFT	$25.12	$26.28	$24.47	▼ 6.89%
Oracle	ORCL	$27.19	$31.73	$29	▼ 8.6%
Red Hat Software	RHT	$42.25	$49.07	$45.51	▼ 7.25%
Symantec	SYMC	$16.73	$16.70	$15.54	▼ 6.95%

NOTE: This information is meant for reference only and should not be used as a basis for buy/sell decisions.

Microsoft Study Examines Effects Of Software Piracy

As part of its global Play Fair Day anti-piracy initiative, Microsoft commissioned a study from Keystone Strategy to look at the detrimental financial effects software piracy can have on a company that chooses to "play fair" in the software industry, and the results are disheartening. Keystone Strategy found that, in the four countries it examined, manufacturers that choose to use genuine software can experience as much as $1.6 billion in competitive disadvantage each year (and up to $8.2 billion over a typical five-year software life cycle) vs. those that cut costs by using pirated software.

Microsoft is an avid supporter of fair licensing practices, and the report stressed the importance of protecting intellectual property, ensuring fair competition, stressing compliance, and ensuring secure software and services.

Study Examines "Hyperconnectivity" Among Mobile Workers

According to recent research from iPass, the state of "hyperconnectivity" that results from always-on access to work through mobile workers' smartphones and other mobile devices is beginning to affect the workers' mental and physical health. The research firm conducted a survey of 2,300 people from 1,100 companies worldwide and found that not only do mobile workers tend to exercise and sleep less due to their work responsibilities—52% claim to sleep less due to work habits—but they also claim to experience negative emotional effects if they don't have access to their smartphones; in fact, 59% say they would have an emotional response to not having access to their smartphone. Furthermore, "downtime" in the traditional sense no longer exists because of the myriad ways workers can connect to mobile networks, and the study shows that mobile workers work 240 more hours per year on average than the rest of the workforce. iPass researchers suggest workers take time to "unplug," disconnect from mobile devices, and practice moderation.

Cisco Continues Its Reorganization With New Cloud Group

Following a major restructuring and 16.5% workforce reduction in July, Cisco has announced further departmental reorganization that will see its NMTG (Network Management Technology Group) combining with two other business units to form a new division that will be headed by Cisco CIO Rebecca Jacoby. The new group is called the CSMTG (Cloud and Systems Management Technology Group), and it is intended to bring together services and engineering in order to grow the company's market share in the cloud and IaaS, PaaS, and SaaS markets. The CSMTG will include the NMTG, the company's Service Delivery Platform operations, and its Intelligent Automation Services business unit. The company hopes to enhance its offerings by developing advanced automation and management capabilities and creating solutions that work across its entire portfolio of hardware, software, and services.

Groups Join Forces To Increase Health IT Workforce

The HIMSS (Healthcare Information and Management Systems Society) and the ASHHRA (American Society for Healthcare Human Resources Administration) are combining their efforts to help remedy a serious labor shortage in the field of health IT. The healthcare industry is in need of about 50,000 workers to aid in the deployment of electronic health records and health information exchanges. Through their partnership, the groups hope to find qualified candidates and promote health IT workplace development by providing educational programs, links, white papers, and other resources such as virtual career fairs.

Google Buys Motorola Mobility

The shareholders of Motorola Mobility approved Google's proposed acquisition of the company. Google will purchase the cellular device manufacturer for $12.5 billion. Motorola Mobility is a separate entity from Motorola; the two divided earlier this year. According to company reports, Motorola Mobility reported losses for the past few quarters and already approved the Google buyout in August. Nearly all board members approved the acquisition in a formal meeting held in November, with 99% voting in favor. The two companies expect the merger to be finalized early next year, after evaluation by the U.S. Department of Justice and the completion of various closing details.

Aruba Networks Buys Avenda Systems

After posting a loss in the first fiscal quarter of the year, Aruba Networks announced it will acquire Avenda Systems. Avenda is a privately held company that develops network security technology, which will likely help enable Aruba to boost its own network security products and solutions for BYOD (bring-your-own-device) strategies in the enterprise. Financial terms of the deal were not released. The companies expect to complete the acquisition by the end of January 2012, pending regulatory approvals.

Intel AppUp Fund Invests In New Tech

Intel Capital announced it has invested $100 million in its newly formed Intel Capital AppUp Fund, which will be used to aid software companies creating apps and content for mobile devices and PCs. According to the company, the fund was created to invest in new, innovative solutions in the tech and computing fields, especially context-aware computing, infrastructure applications, and digital media. The first two investments are promised to mobile platform-as-a-service company Urban Airship and mobile software developer 4tiitoo AG. Applications developed under the fund will be available in the Intel AppUp center.

CASE STUDY

Answering The Call For Storage Speed

PEER 1 Hosting Uses OCZ SSDs To Meet Its Customers' Demands For Speed & Reliability

PEER 1 Hosting, a Web site hosting company, was looking to address the demands of its growing customer base and bandwidth requirements and wanted to leverage the benefits of solid-state technology to enhance its offerings to its clients. Although the company had arrived at the decision to invest in SSDs fairly easily, much more had to go into the buying process. "We had customers asking for higher disk performance at a great price point," says John Hamner, product manager at PEER 1 Hosting. "We also recognized we had a need for enterprise-class storage, with features that would help ensure our customers' data was protected."

For a hosting service, data security and speed is everything. Web sites require easy, quick, and uncompromised access to information and so PEER 1 Hosting knew it needed a fast, reliable SSD solution to meet its needs. In the end, the company chose Deneva SSDs from OCZ, and that decision has made all the difference.

The Case For Enterprise-Class Deneva SSDs

For PEER 1 Hosting, the storage-buying process began with what Hamner calls "extensive research" of multiple solid-state storage providers. This included searching for the right price point and level of performance the company needed to match the expectations of its customers. Eventually, PEER 1 Hosting discovered that OCZ could deliver on both fronts.

"We found OCZ to be not only the highest-performing SSDs, but also the most competitively priced," Hamner says. "OCZ provides a lot of unique options for enterprise-class storage, including encryption, capacitor-based power protection, eMLC, [and] advanced features to ensure performance over the life of the drive, and the level of service we received from them was superior. By utilizing OCZ Technology, we found a great balance between price and performance, while providing the enterprise-level features our customers demand."

More specifically, PEER 1 Hosting decided to invest in OCZ's SATA 3Gbps Deneva R Series SSDs, which are designed to be fast, secure, and highly customizable. With max read speeds of up to 280MBps and max write speeds of up to 265MBps as well as 128-bit AES-compliant encryption, these drives had all of the main features that PEER 1 Hosting needed.

> "OCZ provides a lot of unique options for enterprise-class storage, including encryption, capacitor-based power protection, eMLC, [and] advanced features to ensure performance over the life of the drive, and the level of service we received from them was well above the rest."
> - PEER 1 Hosting's John Hamner

Implementation & Most Helpful Features

Just as PEER 1 Hosting conducted in-depth research to choose the right SSDs for its customers, the company also went in-depth in the testing phases to ensure the Deneva R Series SSDs could handle its storage and security needs. "We performed a series of very exhaustive testing cycles on these SSDs, including testing them in different combinations that our customers would utilize them in, including RAID and standalone drive configurations," Hamner says. "We wanted to verify the performance, reliability, and functions, and the drives had all performed as expected."

Confident that the tests yielded results that would be beneficial to its customers, PEER 1 Hosting decided to implement the Deneva R Series SSDs into its service, and according to Hamner, the results have been immediate. "Our customers have been seeing the benefits of using these drives in their solutions, and operationally we've been able to solve performance problems for our customers needing additional performance," Hamner says.

Other than increased speed, PEER 1 Hosting has seen many other benefits, as well. The company bought the drives mainly for performance, but according to Hamner, PEER 1 Hosting is pleased with the "capacitor-based backup option for the enterprise drives." This option is OCZ's DataWrite Assurance Technology, which is built into OCZ's Deneva R Series SSDs as well as many of the company's other solutions. It's designed to prevent data loss or corruption during unexpected power outages or other power-related failures. Because PEER 1 Hosting guarantees zero downtime for all of its customers, DataWrite Assurance Technology was an important deciding factor for implementing the drives and ultimately fulfilling that guarantee.

Other drives without this type of protection can sometimes have lower page corruption, which is a problem for database applications. Hamner says that OCZ's Deneva R Series drives enabled PEER 1 Hosting "to confidently offer SSDs for database customers and ensure the reliability of our customer solutions."

Problem Solved

PEER 1 Hosting has been very happy with its decision to take advantage of OCZ SSDs, according to Hamner.

The company addressed the needs of its customers and offered a "high-value, high-performance SSD solution," Hamner says. Additionally, the company has been able to replace its older-generation SSDs with Deneva R Series drives to get a boost in overall performance, reliability, and security.

Future Plans

For PEER 1 Hosting, Hamner doesn't foresee the Deneva R Series SSDs being the last products from OCZ that the company will use. After all, even though PEER 1 Hosting can currently keep up with what its customers need, there is always the chance that that could change down the road. For that reason, PEER 1 Hosting will keep a close eye on OCZ's future innovations.

"We have been pleased with the responsiveness of our OCZ team and plan on continuing to evaluate, test, and determine which other products OCZ offers we should provide to our customers," Hamner says. "OCZ has some very compelling offerings with their PCI Express-based storage solutions, and their Deneva 2-R drives are also exciting." P

OCZ Deneva SSDs

Deneva SSDs, including the R Series, are customizable storage solutions for any company that needs fast and reliable alternatives to other types of storage. OCZ also offers a C Series of Deneva SSD as well as the newer Deneva 2 C Series drives, which are available in mSATA and SATA interfaces. OCZ's growing portfolio of SSDs give companies more variety when looking for solutions to their storage-related problems.

"OCZ provides a lot of unique options for enterprise-class storage, including encryption, capacitor-based power protection, eMLC, [and] advanced features to ensure performance over the life of the drive, and the level of service we received from them was well above the rest," says John Hamner, product manager at PEER 1 Hosting. "By utilizing OCZ Technology, we found a great balance between price and performance, while providing the enterprise-level features our customers demand."

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STATS & FACTS

Providing The Latest Insight & Information From Leading Research Firms

Security Concerns For 2012

Majority Of Enterprises Expect 2012 Security Budgets To Increase Or Stay The Same

Research firm TheInfoPro recently spoke with more than 150 decision makers in Global 2000 companies as part of its biannual information security study, and based on information gleaned from its interviews, most enterprises expect their 2012 security spending to be equal to or greater than this year's levels. The study also found that data leakage prevention and application-aware firewalls are among the top security spending projects for 2012.

37% **Percentage of enterprises planning an increase in security spending; 16% anticipate a decrease.**

39% **Percentage of businesses that spent more on security in 2011 than in 2010; just 15% spent less.**

20% **Percentage of enterprises planning to implement network-based DLP in the next 18 months; 27% plan to deploy DLP software in that time frame.**

28% **Percentage of companies planning to roll out application-aware firewalls in 2012.**

Android Malware Explodes In Second Half Of 2011

The need for increased security budgets is clear when you consider recent information from Juniper Networks, which shows that malware targeted at Google's Android platform jumped 472% from July 2011 to the end of November. Researchers believe the increased attacks can be attributed in large part to the fact that Google does not regulate the applications that can be installed on Android devices. The malware presents itself largely as spyware, but a fair percentage of samples act as SMS Trojans, sending costly SMS messages without the user's permission.

Juniper recommends the following steps to help protect against mobile threats:

- **Be aware of threats.**
- **Talk to your IT department and service providers.**
- **Install proven antivirus software.**

More Jobs For IT Professionals

According to figures from the Bureau of Labor Statistics, IT professionals are employed at pre-recession levels. The labor survey indicates that about 4.14 million IT professionals are currently employed in the United States, the second quarter in a row that employment levels for this industry have surpassed the 4 million mark. IT employment reached 4 million for the first time in 2008, before the recession took effect. However, the number of IT personnel, both employed and unemployed, increased quarter over quarter this year, causing the IT unemployment rate to increase slightly to 3.6%, up from 3.4% in the previous quarter. IT job categories measured in the survey include IT manager, software developer, support specialist, and systems analyst.

Adoption Of BI Remains Slow Despite Achievements

According to the BI Scorecard 2011 Successful BI Survey, business intelligence has a fairly high success rate and few total failures. However, the survey also revealed that only 25% of business users have adopted BI, even though 69% of enterprises have BI standards that are either used throughout the enterprise or by specific departments. The survey found that 26% of the 600 BI users surveyed say their BI deployment is "very successful," yet the majority of BI deployments are not realizing their full potential. The majority of survey respondents indicated that they plan to increase the number of BI users within the coming years.

Group Supports Health Data Exchange Specifications

With the backing of seven states, several health IT vendors announced their support of a standardized method of sharing health data among healthcare providers. The standardized set of technical standards was originally created by the New York eHealth Collaborative organization. Government entities in seven states—New York, California, Colorado, Maryland, Massachusetts, New Jersey, and Oregon—pledge to support the newly developed standards. The group's ultimate goal is to motivate other states and organizations to move toward compliance, eliminating the current barriers of data exchange nationwide. Vendors pledging their support include Allscripts, NextGen Healthcare, and Siemens Healthcare.

Analysts: Apple To Take No. 1 Spot From HP In PC Manufacturing

According to Canalys, Apple is likely to outpace HP in sales of personal computers by mid-2012, making it the largest PC manufacturer worldwide. The research firm credits the success of the iPad, considered a personal computer by the firm, for the growth in sales and the forecasted No. 1 position in the market. Apple's PC market share increased to 15% this year compared to last year's 9% during the same quarter. As of now, HP remains the No. 1 PC manufacturer and Apple remains a strong No. 2. Analysts are predicting the release of the iPad 3 early next year and expect Apple's sales to rise to the top after the release of that device.

HP Profit Drops

Although HP reported a 91% decrease in net earnings in the fourth quarter, the company managed to exceed some analysts' expectations. Net earnings were $200 million in the fourth quarter, a dramatic fall from $2.5 billion during the same quarter last year. HP is still the world's largest tech company by revenue, but recent executive changes and a shift in focus caused the company to lower its expectations and restructure its plan for growth. Current CEO Meg Whitman made the decision to keep HP's struggling PC business and is now planning to increase the company's research and development activities. Whitman told analysts the company is focusing on long-term ideas, and not expecting a quick turnaround.

Report: Forrester Examines Big Data

According to Forrester Research, enterprises are not using all the data available to them. The research firm says that data is increasing at an estimated rate of 40 to 50% each year, yet enterprises, on average, are using only 25 to 30% of the data available to them, many using less than 5% of the available data. While it acknowledges that Big Data may be a marketing term, Forrester believes Big Data can help enterprises in such a competitive market. The firm explains Big Data as a technique or technology that helps an enterprise to sort and process data at an extreme scale, resulting in a valuable economic investment.

Venture Capital Funds For Big Data

Accel Partners, a venture capital firm, created a $100 million fund in an effort to propel companies to develop new, innovative solutions devoted to Big Data. The two types of companies likely to receive Accel funds are those that are building new infrastructure and those that are building applications to function on top of that infrastructure. Accel says the fund will provide financial support to companies of all sizes, focusing on such solutions as next-generation storage, data management platforms, data analytics, and vertical and mobile applications. The investments will be spread across the globe and will be available to any sector.

Group Asks For FDA Education On Medical Apps

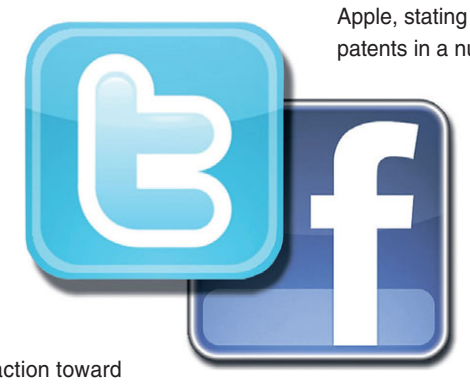
The HIMSS (Healthcare Information and Management Systems Society), an organization supporting the use of IT in healthcare systems, released a statement urging the U.S. FDA (Food and Drug Administration) to educate healthcare systems and providers about correct FDA policies and procedures. HIMSS noted that many hospitals and other healthcare systems have no direct experience with the FDA, which could potentially lead to confusion regarding clinical decision support applications and functionality. FDA response could help reduce any confusion and provide clear definitions of professional vs. consumer use of medical applications.

Survey: New Technology Begs For Updated Security; Enterprises Slow To Adapt

A recent Ernst & Young survey reveals that enterprises are still adopting new technology, but are not considering the security risk. Mobile device applications, social media, and cloud computing introduce new threats to an enterprise, and the majority of survey respondents indicated current use or considered use of these technologies. According to the survey, 72% saw increased levels of risk due to external threats during the past year, yet only one-third of respondents actually updated their information security strategies during that time. Although 59% say they will increase their information security budgets in the next year, less than half said their current security functions are meeting enterprise needs.

CIA Monitoring Twitter & Facebook For Public Sentiment

A CIA team at the Open Source Center is monitoring up to 5 million tweets a day, according to the Associated Press. The report detailed the group's effort to track Facebook posts, Twitter feeds, and other social networks to gather real-time evidence of the public's sentiment toward governments and events across the globe. Posts and tweets are separated by language rather than geographic region and help to give government officials an idea of global reaction toward happenings in any region. This tactic was used and especially informative after the U.S. Navy SEAL raid that resulted in the killing of Osama bin Laden and during the recent revolt in Egypt. A brief of the report is shared with top government officials, including the president.



Jury Dismisses Rambus Antitrust Lawsuit

A jury in a San Francisco, Calif., court recently rejected a $4 billion antitrust lawsuit from Rambus against two of its competitors. Rambus, a RAM manufacturer, previously filed antitrust claims against Hynix Semiconductor and Micron Technology, claiming the two rival vendors worked together to fix product prices and jointly conspired to ruin Rambus' business with Intel. Rambus filed the lawsuit in 2004 and still has the option of appeal. The company has previously pursued lawsuits against the same two competitors for patent infringement. According to *The Wall Street Journal*, stock dropped more than 60% after the verdict was announced.

VirnetX Accuses Apple Of Patent Infringement

VirnetX filed a complaint with the U.S. ITC (International Trade Commission) against Apple, stating the company is infringing upon its patents in a number of devices. VirnetX seeks to stop the importation of several different Apple devices into the United States. The company claims Apple's iPod, iPhone, iPad, and even Mac computers use technology that infringes upon its patent (No. 8,051,181). VirnetX's complaint urges the ITC to investigate the accusations in addition to its request for a cease and desist order to prevent Apple from selling devices already imported in the United States. The company says it expects an investigation to begin promptly and court hearings to start next summer.

Report Shows Extreme Global Growth In Wi-Fi Hotspots

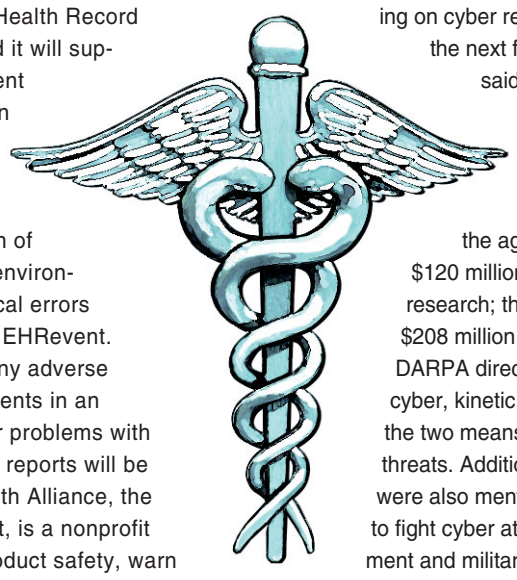
A report from Informa Telecoms and Media predicts that the number of Wi-Fi hotspots will increase by 350% within the next four years. According to the report, 5.8 million public hotspots will exist throughout the world by 2015, a drastic increase from the approximately 1.3 million that are active today. Informa credits mobile data demand for the increased number of hotspots. The report showed laptops use 48% of the connections made at hotspots, and smartphones follow as a close runner-up, using 36%. The company expects smartphones to soon become the No. 1 mobile device connecting to Wi-Fi hotspots.

Thailand Flood Affects Hard Drive Market

Remaining floodwaters from a monsoon that hit Thailand are affecting hard drive availability, as several manufacturers are shutting down production at Thailand plants while the high water slowly recedes. The flooding is said to be the worst the country has seen in five decades. Because of the situation, analysts expect that at least one-third of the expected hard drive demand in the fourth quarter is in risk of not being satisfied, and effects of the pause in production will linger into next year. Seagate expects hard drive demand to far exceed supply through March 2012. External hard drive supply and pricing will likely be the most affected.

Vendors Support Error Reporting For EHR Systems

An association of EHR companies known as the HIMSS Electronic Health Record Association announced it will support an EHR safety event reporting system known as EHRevent. The 44 companies involved recognized that the implementation of EHRs in a healthcare environment can lead to medical errors and voiced support for EHRevent. EHRevent will report any adverse electronic recording events in an effort to find glitches or problems with these new systems; all reports will be kept anonymous. iHealth Alliance, the developer of EHRevent, is a nonprofit that aims to ensure product safety, warn consumers of recalls, and communicate any other FDA announcements.



Amazon's Cloud Services Successful

Although Amazon fell short of earnings expectations in some categories, its "Other" category increased 70% year over year from $240 million last year in the third quarter to $407 million in the same quarter this year. Amazon's "Other" category includes its cloud services offering known as Amazon Web Services, which is likely the driving factor behind the growth. Amazon does not publicly release earnings information on AWS, but such an increase prompted analysts to estimate the company's cloud services could become a $1 billion business as early as next year. For the first nine months of 2011, the "Other" category generated $1.077 billion; analysts guess AWS represents about 60% of the category.

DARPA Increases Cyber Spending

DARPA (Defense Advanced Projects Research Agency) announced it will increase spending on cyber research by 50% over the next five years. The agency said its main focus is on offensive cyber tactics and defensive capabilities. In fiscal year 2011, the agency planned for $120 million in spending on such research; that number will rise to $208 million in fiscal 2012. The DARPA director cited the need for cyber, kinetic, and a combination of the two means in combating modern threats. Additional speed and scale were also mentioned as necessities to fight cyber attacks against government and military operations.

PHOTO LISTINGS

The *Processor* Photo Listings section includes brief overviews of data center products.

All products listed have been released recently, so use this section to get up to date with what's new on the market and to find products you need.

Manufacturers:
Do you have a new product that data center/IT managers would be interested in learning about?
Send your press release or product information to press@processor.com.

Anue Systems 40G-Capable Network Monitoring Switch

Anue Systems Announces the Highest-Density 10G and First 40G-Capable Network Monitoring Switch

To help large enterprises monitor the increasing number of 1G, 10G and 40G ports with existing monitoring tools, Anue Systems introduces the highest-density 10G and first 40G-capable network monitoring switch. The Anue 5288 Net Tool Optimizer™ (NTO), which packs up to 64 10G ports into a compact 2-RU form factor provides network engineers and IT managers a migration path for their organizations to move to 40G networks while protecting investments in existing 10G and 1G monitoring and security tools. Contact www.anuesystems.com for more information.

(512) 600-5400 | www.anuesystems.com

PDU Cables™ UL Listed Power Distribution Cables

Experience why thousands of data centers have made PDU Cables their preferred choice.

PDU Cables - the industry's leading UL Listed and labeled power whips. Engineered to the highest quality level, controlled environment manufactured with industrial grade components and factory tested for unequaled safety and reliability. Offering hundreds of custom cable configurations to suit every application, our trained technical staff can assist you in every way.

PDU Cables provide a complete pre-fabricated PDU cable assembly solution to ensure the highest reliability for your data center environment.

(866) 631-4238 | www.pducables.com

Milton Security Group EdgeSMB Adaptive Network Access Control

The EdgeSMB, based on the industry leading Edge7200i, brings Adaptive NAC solution to the Smaller Business. Supporting up to 50 users, more than 100,000 sessions, and 2048 sessions per user, the EdgeSMB integrates seamlessly into your existing network. Solutions starting at $999 include the following:

- Admission control for all users onto the network
- Control access based on user credentials, business function, time of day or location
- Differentiated access over common infrastructure
- Seamless integration with existing authentication services
- Track and Log all user activity on the network
- Protect critical internal resources

(888) 674-9001 | www.miltonsecurity.com

ServerLIFT SL500 Server Lifter

Introducing the SL500 Server Lifter, by ServerLIFT Corp. The SL500's slim 24-inch frame sits on four oversized swiveling castor wheels, allowing it to easily maneuver around data center aisles. The unit is designed to load equipment from the side rather than front, for a more intuitive operation and seamless installation. Aligning equipment is simple with an ultra-rigid platform which features a unique easy-glide shelf for added support into the rack. Inspired by data center needs, the SL500 is the embodiment of power and elegance.

- Protect your people
- Improve productivity by 100%
- Reduce costs
- Streamline server deployment

(602) 254-1557 ext. 3000 | www.serverlift.com/itt

Upsite Technologies® KoldLok® Round 4" Grommet

At Upsite Technologies, sealing cable openings is our #1 priority. The KoldLok Round 4" Grommet is the latest innovative design from The LOK Family of Solutions™ that is specifically designed to improve the data center's overall efficiency. The KoldLok Round 4" is engineered with a split design feature, allowing for product installation or removal without disturbing cables.

New Hybrid Brush Technology (HBT) offers a flexible, highly efficient sealing membrane and multi-layered construction for increased sealing effectiveness. The KoldLok Round 4" is the most efficient grommet on the market and the premium choice for your facility.

(888) 982-7800 | www.upsite.com

Uptime Software up.time 6

up.time has new "Set it and Forget it" deep VMware performance and capacity management in its IT systems management suite. New vSync technology auto-discovers VMware environments in seconds. VMware blind spots are eliminated with automatic monitoring applied as each new VM spins up. Optimize resources by bringing rogue VM and sprawl problems under control with proactive auto-validation and reactive sprawl killer reporting. Save 50% compared to similar enterprise products. up.time's entire suite is included in a simple per-physical server license. When it comes to complete datacenter server and application monitoring across all platforms, up.time has you covered.

up.time software
because downtime is not an option

(866) 735-4304 | www.uptimesoftware.com

LINDY USB Port Blocker

System administrators can physically prevent users from connecting Pen Drives, MP3 Players and other USB Mass Storage Devices to their computers to copy data, introduce viruses, etc. The USB Port Blocker is a combined 'key' and 'lock' assembly which plugs into the USB port. Simply plug the 'keylock' into the port and release the latch - the lock remains in place! Plug the key back into the lock to remove. Easy!

- Physically blocks access to a USB port
- Consists of 4 locks and 1 key
- 5 different color code versions available: Pink, Green, Blue, Orange, White

(888)-865-4639 | www.lindy-usa.com/

NordStar Group

NordStar Group (NSG) is one of the nation's leading sources for New, Refurbished, Legacy and Green Products. The companies extensive partner list includes HP, Sun/Oracle, IBM, Dell, Cisco, Juniper, VMWare, SonicWall and other Tier 1 manufacturers and software providers. NSG's hardware portfolio includes Servers, Workstations, Storage and Networking Equipment. NSG is a comprehensive solutions provider offering not only hardware and components, but full implementation and IT solutions. NSG can provide System Design Configurations, Installation, End of Life Products and Asset Recovery.

NSG NORDSTAR GROUP

(832) 467-0000 | www.nordstargroup.com

Carroll-Net Healthy Server Offsite Backup

With Healthy Server Offsite Backup, you'll receive a Free Backup Server. Every day, you'll get a Three Way Backup: backup onsite, backup offsite, and backup to archive. And Carroll-Net will make sure it works simply and dependably. Essentials Plan starts at $99 per month. Sign up for a free 30-day trial and get a free copy of KLEO to create server images.

HEALTHY SERVER OFFSITE BACKUP

- Automatic Backup Offsite to Secure Data center
- Fastest recovery time in the industry (1Gbps)
- Agentless—no software to install
- 24-hour monitoring and alerting
- Daily backup reports and monthly storage reports

(888) 432-1638 | www.carroll.net

Network Box USA
Z-Scan

Z-Scan from Network Box is revolutionizing how organizations deal with Internet-based security threats.

Traditional antivirus technologies focus on recognizing the threat, identifying it and then stopping it. The entire process can take between 4-12 hours. Hackers know this and are taking advantage of it by flooding the Internet with at least 40,000 new pieces of malware per day.

Z-Scan takes an entirely new approach based on statistical observations – creating/releasing signatures are fully automated, reducing the cycle to just seconds. And Z-Scan can respond to certain types of spam in seconds, instead of several hours typical in the Internet security industry.

(832) 242-5758 | www.networkboxusa.com

Metric Systems Corporation
The Rhino Box® Communications Shelter

The Rhino Box communications shelter is engineered from the ground up to protect commercial and industrial grade equipment in harsh environmental conditions enabling deployment and operation of communications and IT equipment nearly anywhere at any time.

Standard Features and Capabilities:

- Available in 9U to 21U sizes
- Support for RF and Wireless Systems
- External Temperature Range: -30°F to 160°F
- AC, DC or AC/DC Redundant Operation
- Supports Equipment Payload Weights to 300 lbs.
- Heavy Duty Shock and Vibration Protection
- Internal Fail-Safe Temperature Control System

(800) 549-7421 | info@metricsystems.com

Optical Cable Corporation
Data Center Cabinet

OCC's new Data Center Cabinet provides mounting, storage, power and cooling to equipment in any Data Center. The structural integrity and modular design provide flexibility and adaptability to active and passive equipment, keeping the equipment and associated cabling organized, powered and cool while providing selective degrees of security. OCC's Data Center Cabinet is ideal for any equipment room, MDF, central office or processing facility.

- Two widths - 24" and 30"
- 45RU accommodation
- 42" extended cabinet depth
- Door hinges can be mounted on either left or right
- Hinged Side panels

(800) 622-7711 | www.occfiber.com

RF Code
R160 Air Pressure Sensor

RF Code's R160 Air Pressure Sensor is the newest addition to its wire-free environmental and power monitoring solutions. The sensor reports differential air pressure readings, enabling monitoring of changes in air pressure and eliminating manual troubleshooting of suspected air flow-related problems. Sensor data flows into RF Code's Sensor Manager software, which manages the information and provides trending, reporting and alerting. Other leading software platforms can also consume the air flow data because Sensor Manager has off-the-shelf integration modules and open APIs, making custom integration easy.

(877) 463-0756 | www.rfcode.com

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MovinCool CM25
Ceiling-Mounted Server Room Air Conditioner

Based on breakthrough engineering technology, the MovinCool CM25 ceiling-mounted server room air conditioner offers a combination of features and benefits simply unavailable elsewhere on the market today. Unlike a traditional fan coil unit, the MovinCool CM25 offers a totally self-contained unit that is perfect for server rooms and other tight spaces.

- 25,000 Btu/h cooling capacity
- Environmentally-friendly design - 14 SEER, variable-speed compressor, R410A refrigerant & RoHS compliant
- Compact, self-contained unit is easy to install
- Wall mount controller offers advanced programmability and settings
- High sensible cooling – ideal for server rooms

(800) 264-9573 | www.movincool.com

Uptime Devices, Inc.
Remote Physical Monitor Console Manager

Austin, TX based Uptime Devices, Inc. is released the Remote Physical Monitors (RPM). Uptime RPM employs intelligent Daisy Chain Sensor® technology, is the most efficient way to leverage sensors for monitoring up to 250 different sensors to plug into one RPM. Daisy Chain Sensor® technology sets the standard in data center physical monitoring. Compatible with the leading management solutions and hardware, the RPM system allows customers to simply plug in and protect their IT and infrastructure investments. Uptime Devices created the Daisy Chain Sensor® and developed smart sensors Remote Intelligent Multi Sensor® RIMS technology. **To enter a raffle for a chance to win the RPM unit, go to www.uptimedevices.com/processormag.**

(512) 328-1800 | www.uptimedevices.com

Staco Energy Products
New 65kVA 480VAC FirstLine P UPS

The 65kVA FirstLine P is the latest addition to their FirstLine P product family. Standard and optional features, tailored three-phase online double conversion UPS from Staco Energy Products is in direct response to customer demmand for a lower kVA UPS addition to their native 480VAC product family. The new 65kVa UPS is an online double conversion unti with IGBT and DSP technology and dual AC inputs. This addition is highly efficient with laudable power factor, which translates into lower TCO and electric bills, resulting in a greener footprint. The product also features upstream filtering of harmonics and reactive load emanating from the power load. The unit supports the use of up to 8 units in parallel, and features flexible installation options and a two-year full warranty.

(866) 261-1191 | www.stacoenergy.com

RackSolutions®
Open Frame Wall Mount Rack

The Open Frame Wall Mount Rack from RackSolutions adjusts to nine different configurations, making it ideal for almost any application. The rack is perfect for networking equipment with a front mount of up to 21U of space and a top and bottom rack space of up to 9U. The Wall Mount Rack comes in 12U, 15U and 21U heights as well as depths of 9", 12" and 17". The open design promotes optimal air flow while offering a weight capacity of up to 400 lbs. Side panels, top panels and front covers are optional. With an assembly time of less than ten minutes, the Open Frame Wall Mount Rack is best suited for network switches, patch panels and servers (mounted vertically). Starting at $199.99.

(888) 903-7225 | www.racksolutions.com

ITWATCHDOGS
WatchDog 100

ITWatchDogs introduced the WatchDog 100, a self-contained unit with on-board temperature and humidity/dew-point sensors. It has an input capacity of eight external sensors and an output of one NO/NC relay contact for triggering external devices. A variety of optional plug-and-play sensors are available for use with the WatchDog 100 including but not limited to, temperature, humidity, airflow, water and smoke detection sensors, door position, power failure, and more.

Order online and receive free shipping when you enter promotion code PWD0911.

(512) 257-1462 | www.itwatchdogs.com

Siemon
VersaPOD

Siemon's new line of VersaPOD data center cabinets and open rack systems are designed to take advantage of the vertical space between cabinets and racks using the company's Zero-U vertical accessories. Each VersaPOD cabinet can support routing for more than 5,000 cables, and the Zero-U vertical patch panels and cable managers can help free up horizontal equipment mounting space by adding up to 40U of cable management and patching space. The complete VersaPOD line includes Zero-U-compatible1,000mm and1,200mm cabinets and adjustable four-post open racks, as well as 600mm cabinets without Zero-U provisions.

(860) 945-4200 | www.siemon.com

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Your "Mission Critical" area needs proper attention to support the backbone of today's business. Our staff is well trained by industry leaders; your requested process followed to the letter; and our green cleaning techniques assure low voc invasion, vital dust retrieval and reduced concrete salts sloughing into these critical areas.

Technicians have completed an extensive training program offering green cleaning services for Data/Access flooring both above and below the surface. We selected this service as a compliment to our current offering because it requires the same attention to detail; the thoughtful planning of the job; and deliberate execution to protect your investment. Rest assured we are carefully working while you are resting for the next day.

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- IP Telephony
- Mobility
- Security
- Data Networking
- Video Conferencing
- Wireless Networks
- Video Surveillance
- Network Assessments
- Biometrics Secure Access

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Keeping Customers Connected

(646) 755-9100 | www.macsourceinc.com

AVTECH
Room Alert 32W & Light Tower w/Audio

Room Alert 32W & Light Tower w/Audio monitors computer room temp, humidity, power, room entry & more in multiple locations while utilizing wireless technology to reduce running cables.

This package combines the benefits of Room Alert 32W with a Signal Tower & Light Tower Adapter. It enhances alerting capabilities by providing visual & audible alerting when events occur. The adapter also includes a relay switch to turn on/off low voltage devices via the web interface or automatically in response to alarm conditions. All AVTECH monitors include a license for Device ManageR, AVTECH's solution for discovery, management, logging, graphing, alerting & more.

(888) 220-6700 | www.AVTECH.com

Fike's ECARO-25®
Clean Agent Fire Suppression

Fike's ECARO-25 clean agent with Impulse Technology is the best way to suppress fires and protect your high-value assets and business continuity. ECARO-25 features the unique fire extinguishing agent FE-25™ by DuPont™, which absorbs heat energy at its molecular level faster than the heat can be generated, so the fire cannot sustain itself.

Features of ECARO-25 include:

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- Electrically Non-Conductive
- Colorless and Odorless
- Leaves No Residue
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- No Overpressurization Concerns

(866) 758-6004 | www.fike.com/products/fsecaro.asp

OnRamp Data Center
Full7Layer Support

OnRamp's Data Center services are backed by our **Full7Layer Support**. OnRamp's engineers are available 24/7/365 to provide support where you will most likely need it: inside your rack. Other Data Center companies like to talk about support, but actually provide very little in the way of real, hands-on help. OnRamp is different. While our engineers regularly perform tape swaps and server reboots, they have the expertise and capability to support customers all the way through the application layer, going above and beyond routine requests. In fact, many customers view OnRamp as an extension of their IT department, and choose to supplement their technical expertise, enhance their service, or seek on-demand support in emergencies with the help of OnRamp's Full7Layer Support.

onramp

(512) 322-9200 | www.onr.com/processor

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ECS G11 AIO was designed in collaboration with INTEL to fit any Thin Mini-ITX standard motherboard, 3.5 in HDD, and slim ODD for future upgradability and specification customization.

You can now build and offer a customized white box AIO with ECS G11 with everyday components!

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Recycle Your Media is the secure end-of-life data solution for surplus new and used data tape media cartridges. RYM wants to buy most types of used tapes and almost all types new such as Super DLT1, II / LTO 2,3,4 / AIT 1,2,3,4,5 / AME2 / 3592 / T10000 T10K / SLR / MLR / VXA / DLT VS1 / ETC.

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CybertronPC
Vertex XV1080A 1U Rackmount Server

This is a 1U Rackmount design with Dual Intel Xeon 2.40 GHz Quad-Core processors, 32 GB PC3-8500 Memory and a trio of 1.0 TB RAID 5 Storage.

Custom configuration offers 7 more choices of processors or hard drives, added memory, 5 RAID types, O/S and Software. Prepared with components in inventory, not servers; CybertronPC focuses on customer system and performance requirements, then custom builds to meet the exact need. Whether the need is for a single server or 1,000; Cybertron never asks customers to lower their expectations.

(877) 737-8795 ext. 1 | www.cybertronpc.com

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FEATURED PRODUCT

Products Prepared For Real-World Use

Server Technology & PDUs Direct Know The Importance Of Product Testing

Most companies perform some form of testing on their products to ensure that they are in good working condition before being shipped to customers, but Server Technology, experts at producing the highest standard of quality PDUs, goes above and beyond basic testing with its 100% Product Performance Testing. The process includes putting each product through a series of tests designed to push it to its limits, which results in high-quality products with low failure rates.

The reason Server Technology decided to perform these tests on every product for 27 years is much simpler than you may think. "The worst thing for a customer is to open a box, plug a product in, and it doesn't work," says Jim Scherr, director of sales and operations at PDUs Direct (www.pdusdirect.com), the master distributor of Server Technology PDUs. "The overarching reason for doing the power testing is simple: to make sure that any product that leaves our building functions as per designed and meets all the criteria of the customer. We're committed to always providing the quality and value that our customers expect."

The first and foremost benefit of Server Technology's 100% Product Performance Testing is that customers can have peace of mind knowing that the products powering their mission-critical devices work as designed and have less of a chance to fail, according to Scherr. Server Technology's major goal is to help keep their customers' physical infrastructure up and running so they can be as productive as possible.

Testing From Beginning To End

With 100% Product Performance Testing, it isn't just a matter of testing a product after it's completely built. In fact, these products are tested throughout the manufacturing process to make sure any possibly defects or other issues are caught early on to prevent a potential domino effect later down the line. And if a product fails at any step along the way, changes are made and the testing process at that level starts all over again. "It's good for us to know early on if there's a problem because we can fix it here at our manufacturing facility, which is so much better and quicker than trying to fix issues or problems in the field," Scherr says.

The variety of tests performed on the products run the gamut from thermal, shock, and vibration testing to compliance with ATE (Automated Test Equipment) tests, as well. It all leads to the final tests, which are designed to test the product in real-world applications and make sure they are ready for the customer once and for all. All tests are performed in a state-of-the-art Power Lab.

"All products are tested at all stages, starting from when the product is in its infancy to when it has become finalized," Scherr says. "Just before it goes out the door after the final modification, we test it once again. We don't just test it by plugging it in and making sure the lights come on; we plug it in and we load every receptacle. We just want to make sure that, functionally, the product fully works under the conditions it will see in the future."

A Partnership Between Manufacturer & Customer

PDUs Direct sells a wide variety of Server Technology products, including basic, switched, and metered Rack PDUs, and all of them go through the 100% Product Performance Testing process. It's a combination of well-built, easy-to-use products and a degree of testing that isn't often seen in the IT industry. Current customers notice this because, according to Scherr, they "really appreciate the due diligence being done prior to them getting the products."

And Server Technology, along with PDUs Direct, sees its relationship with customers as a mutual partnership, which is why 100% Product Performance Testing was put into practice in the first place. These companies strive to provide the best products available with the highest amount of testing and lowest failure rates so that their customers can focus on running their businesses instead of fixing infrastructure issues.

"The quality, reliability, and performance of our products are the most important benefits—to our customers and to us," Scherr says. "It's what we've built the company on and what we stand for every day." P

Server Technology 100% Product Performance Testing

(800) 835-1515
www.servertech.com

Tests products at every step, from inception to production to sale, to ensure the highest quality and lowest failure rates possible.

Burk Technology Climate Guard LT NEW PRODUCT

Environmental Monitoring, Customized Your Way

Your physical infrastructure, including servers, storage solutions, and more, is constantly under attack from the elements. Whether it's excessive heat, water and other liquids, or something else unforeseen, it's important to make sure your data center environment is protected from data loss, damage, and downtime. Burk Technology designed its Climate Guard LT to prevent such disasters and warn you if conditions are right for one to occur.

Burk Technology Climate Guard LT

An environmental monitoring solution that can monitor temperature, humidity, power, floods, smoke, motion, and door contact and alerts users of potential problems.

The Climate Guard LT is a highly customizable environmental monitoring solution that will provide you with climate data and alerts. The base model is equipped with temperature, light, and sound sensors, but with its eight extra inputs, you can connect sensors that will detect humidity, power, floods and leaks, smoke, motion, and door contact. The right combination of built-in and additional optional sensors ensures that your data center infrastructure will be protected from both natural occurrences and human error.

Other helpful features of the Climate Guard LT are its alert system and onboard Web interface. Burk Technology's monitoring solution will send email, SMS, or SNMP trap messages to warn you of a current or potential threat, so you can take swift action and prevent or minimize damage. The onboard Web console makes it easy to manage all the data you receive from sensors and search for early warning signs, which can help you spot trends and fix vulnerabilities before they become major issues.

Not every data center is the same, so there may not be a one-size-fits-all solution for environmental monitoring. But Burk Technology's Climate Guard LT can be customized to fit all of your needs, protecting you from potentially costly climate-based problems.

BURK TECHNOLOGY

(800) 255-8090
www.burk.com

HOW TO

Evaluate Windows Phone For Your Enterprise

What Does Mango Have To Offer & How Should You Integrate It?

Key Points

- Understand what Windows Phone 7 devices are capable of, such as messaging and file sharing, to ensure that policies and services will be available to utilize the key features.
- Windows Phone 7's integration with existing Windows infrastructure should make it easier to integrate into your existing data center environment.
- Windows Phone 7.5, also known as Mango, offers a variety of new features that may entice more employees to begin using it in the work environment, so you should be prepared to handle the demand.

The Mango release of Windows Phone 7 offers improved Microsoft Exchange support as well as a number of other helpful enterprise features that make it more appealing for employees to use for work. Those improvements mean that you'll likely need to ensure that Windows Phone 7 devices can be supported and securely used within and outside of your organization. Here is an in-depth look at what Windows Phone 7 has to offer and what you'll need to consider when integrating Windows Phone 7 into your enterprise.

Windows Phone 7 Mango

When evaluating Windows Phone 7 for enterprise use, it's first important to know what features the platform has to offer your workplace. With Windows Phone 7.5 (also known as Mango), employees can now sync Outlook for Tasks and To-Dos, as well as perform a keyword search of their inboxes and combine emails from multiple accounts. IT staff will also like that Mango supports the use of stronger passwords, such as those with alphanumeric strings, for better security. According to Dan Cornell, CTO of Denim Group (www.denimgroup.com), "The biggest step forward for most enterprise users is the better integration with a variety of Microsoft products and services, including Office 365, Exchange, and SharePoint. These allow enterprise users to more seamlessly interact with business-critical applications such as email and document sharing."

Security has also improved through the integration of Microsoft's RMS (Rights Management Service), which gives Windows Phone 7.5 users the ability to open, send, and receive emails with restrictions, such as preventing documents from being copied, edited, forwarded, or saved. "Mango also helps to address some serious mobile security concerns—specifically the security of data for lost devices—that are not being comprehensively addressed on other platforms," Cornell says.

"Enterprises are also getting better Office 365/Lync support, which is definitely important for users who need access to their Office suite applications," says Christian Kane, researcher for Forrester Research. "Firms can now also take advantage of application distribution via the Windows Marketplace with hidden links for only their employees." Target app distribution allows businesses to let employees download application through the Web Marketplace, so it's easy to securely distribute custom apps and updates. Lync is a feature coming late this year that can work with SharePoint to collaborate through project teams, videoconferencing, and other unified communication tools.

Windows Phone 7 vs. The Competition

It's also important to know how Windows Phone 7 stacks up against competition from the likes of Apple and RIM. According to Forrester's Kane, "As Windows Phone 7 continues to be worked into the Microsoft ecosystem with Office 365, Windows 8, and even Xbox, it's going to look more attractive to consumers, who are inevitably employees. Microsoft's strong development community also has helped it populate its Marketplace quickly."

Denim Group's Cornell also lauds Windows Phone 7's relationship with existing IT hardware. "Most enterprises rely on Microsoft technologies like Office, SharePoint, and Exchange to make their workers productive," Cornell says. "As users desire to take these capabilities on the road, tight integration of the mobile platform with the server platform will be helpful in providing a premium experience for users."

In the past, BlackBerry has offered a similar type of smooth integration through BlackBerry Enterprise Server, but Microsoft's existing infrastructure in the data center may make it even simpler to control both the server-side and managed device infrastructure. With Mango, Microsoft has included full integration with Microsoft Office applications using Office 365, which you can access through the Office Hub. For example, documents can be uploaded from a PC to an Office 365 server or SkyDrive and then downloaded onto the phone, or vice versa. Everything will sync with the newest version, no matter which device an employee uses.

Windows Phone 7 Downsides

So what are the potential hindrances presented by Windows Phone 7? "Microsoft is playing catch-up with Windows Phone 7 since it was released after Android and iOS," Kane says. "Because of that and the functionality that people had been waiting for with Mango, we've seen pretty low adoption of Windows Phone 7 in general. Enterprises are focusing on the platforms which have the most consumer attention (Android and iOS) and are already inside their networks with access to company data."

Furthermore, if you're already focusing development attention to other mobile platforms, it may be difficult to find the time and resources to add Windows Phone 7. "Many MDM (master data management) tools do not fully support Windows Phone 7 today, but as demand grows, they'll add in support, which will definitely help enterprises who are feeling the need to support the platform," Kane says. P

Action Plan

- Talk to employees about their mobile device needs, so that mobile policies and procedures support what the workers need and want to do with their Windows Phone 7 devices.
- Set up management and security configurations based on the applications and tasks users need to accomplish with Windows Phone 7. Forrester Research recommends a tiered strategy, such as full support for company-purchased devices and less support for personal-use platforms. The tier system keeps costs down and lays the foundation for employees to use their own mobile phones.
- Find ways to create, roll out, and support mobile business apps. This may include such things as building native apps to run on devices, using browser-based programs, or setting up virtualization technology to deliver several applications.
- Monitor the network, mobile access, and security infrastructure as it evolves to ensure that enough budget and time is being spent on supporting Windows Phone 7.
- Analyze benefits and costs to figure out actual budget for mobile costs. If many employees are adopting Windows Phone 7, consider whether the company should reimburse employees for devices they are using for work purposes.

Get Started

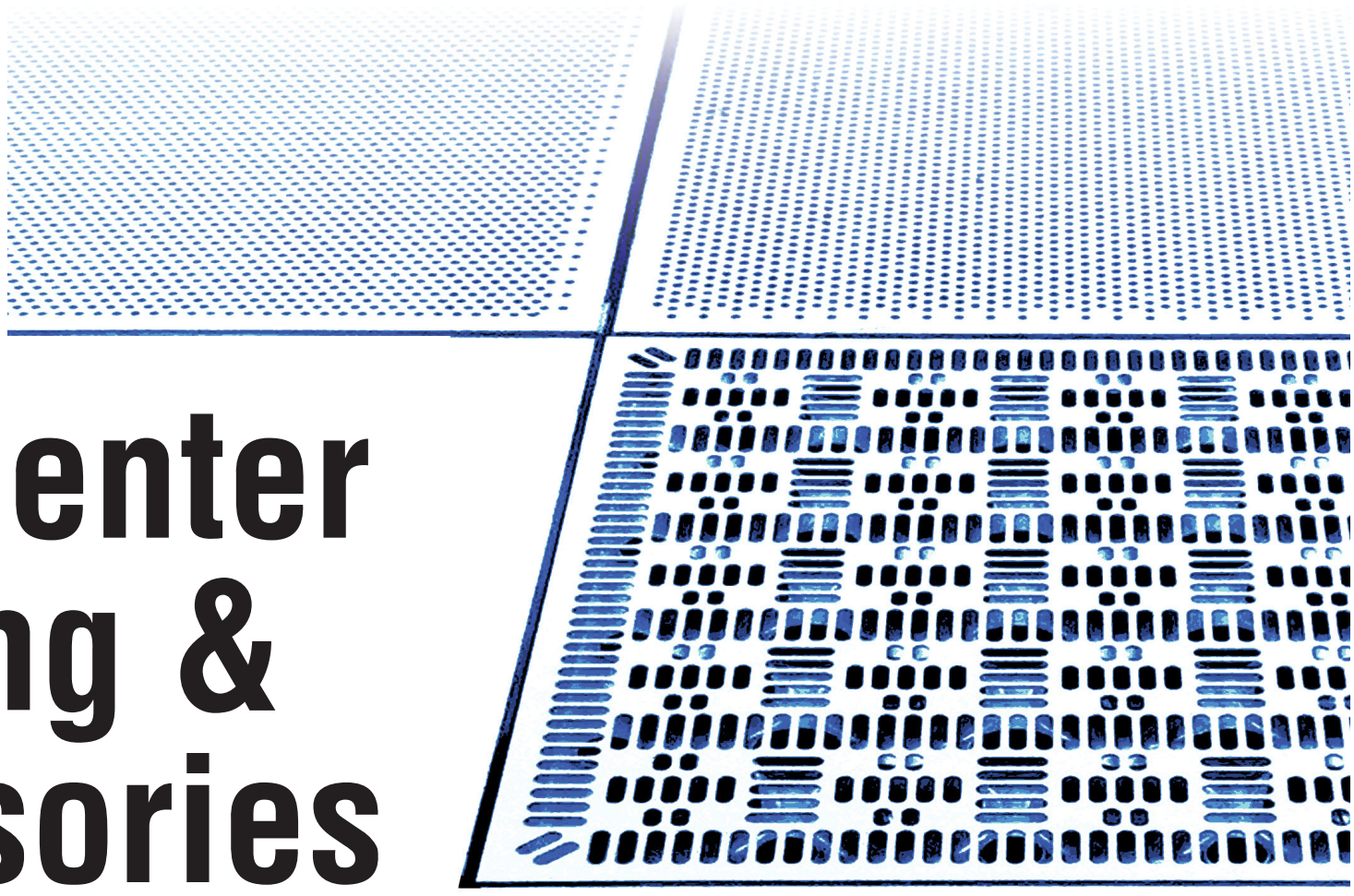
According to Forrester researcher Christian Kane, enterprises should be sure to have master data management tools in place before implementing any platform. "MDM tools are definitely a necessity for firms looking to integrate Windows Phone 7," Kane says. "These tools enforce policies around security and access, can perform selective device wipes when necessary, and help firms ensure the devices stay compliant with the firm's mobile policy. Moving forward, enterprise application stores will help firms better manage and provision mobile applications to the right devices and users."

Top Tips

- ✔ "System administrators will need to learn how to manage these new Windows Phone 7 devices, and early adopters will likely need help from Microsoft partners who have already developed experience with these rollouts," says Dan Cornell, CTO of Denim Group (www.denimgroup.com).
- ✔ Meet with employees and users of Windows Phone 7 at various levels when creating initial policies, because you'll need to determine the rules for mobile usage that you'll need to enforce. Usage information will also help you to create smart policies for what IT will and won't allow.
- ✔ Determine whether users will be allowed to bring in their own devices or if all devices will be company-provided. "If questions like these are answered up front, that allows for planning and standardization, which can help to reduce costs," Cornell says. "It might also indicate an inability to standardize, which will at least help enterprises to better estimate rollout costs."

BUYING TIPS:

Data Center Flooring & Accessories



ONE WAY TO DRAMATICALLY cut data center cooling costs is to invest in raised flooring, because it can play an active role in the way you deliver cooling and manage the heat around your servers. Here, we'll identify a few key elements you'll need to think about before you purchase data center flooring and accessories.

Space. "If your data center was built 15 to 20 years ago, it may have been built on a floor that's shallower than what's required today," says Scott Jacobitti, national sales manager for Snake Tray (www.snaketray.com). Most new raised floor construction requires a minimum of 24 to 36 inches, which is primarily to provide airflow under the floor and cool the electronics in the data center. If you don't have the space available, you may need to redesign the data center flooring to properly handle the heat from your servers.

Power requirements. In most cases, power circuits will not change over the lifetime of the data center. If you're moving or plan on moving in the near future to a denser server layout, you'll want to build in the power to handle it. "Most cabinets are currently running 10, 15, or 18dBA, and maintaining that energy means that you'll need to bring a tremendous amount of cabling under the floor," Jacobitti adds. "In conjunction with the need for airflow, you may have a situation." You'll need a tray that allows for air movement to go through the tray, rather than blocking the air and creating a hot spot.

Cables to cabinets. There are going to have to be some cutouts in the floor for your cables, and you'll want to seal around the cable cutouts to keep your data center cooling efficient. Otherwise, the cold air can escape through the space, which can be a big waste of energy. By installing a grommet with a filler material, you can still have the flexibility to easily access cables without reducing the data center's cooling efficiency.

Surface. "You definitely want a nonreactive surface, because you're dealing with a lot of expensive electronic equipment that's susceptible to ground faults and shorts," Jacobitti says. Flooring options are available that are static-resistant, alternatively known as antistatic, static dissipative, or static conductive. Keep in mind that the floor will need to prevent static against a variety of footwear and humidity conditions. Flooring with a traceable ground path is best suited to data centers because it can migrate the electrostatic discharge away from the electrical equipment.

Weight. Make sure that all areas of the data center raised floor are capable of handling server weight and traffic. "The data center is a dynamic space, and your organization will be moving things in and around the floor, so the entire structure needs to be sound," Jacobitti says. You'll want to be especially careful in areas where you plan to roll in equipment, not just the areas where the equipment will eventually be located. P

BUYERS' CHECKLIST

- ✔ Will you need a new build-out to meet the space necessary for airflow and cable management?
- ✔ Do you currently have enough power to provide energy for all the servers, and will there be room for expansion in the future?
- ✔ Do you have cable cutouts that will prevent the data center's cool air from leaking through the areas where the cables run to the cabinet?
- ✔ Does your data center need an antistatic floor?
- ✔ Are all sections of the data center flooring capable of handling the weight and traffic to which they will be subjected?

KEY TERMS

Base.
The piece that's attached to the deck by a mastic or mechanical fastener; its height will determine how high the finished floor will be.

Head.
Inserts into the base and includes holes to fasten panels or stringers, and there's usually a leveling to let you make fine adjustments to the floor height.

Panel.
The material that makes up the walking surface of a raised floor. Depending on your weight and traffic needs, the panel may be made from steel, concrete with steel reinforcing bars, or aluminum. The interior may be filled with a lightweight material to give you the ability to easily move panels.

Stringer.
A metal channel or square tube that's attached to the pedestal head that forms a grid and provides lateral stability. May either be snapped into place or fastened from the top with a screw.

PRODUCT SPOTLIGHT

Data Center Flooring & Accessories

Access Computer Floors

Description

Access Computer Floors has more than 28 years of experience working with raised flooring for high-profile clients such as General Electric, the United States Postal Service, and Morgan Stanley. The company's raised floor system process, including bidding, estimates, purchasing, and installation, is efficient and cost-effective. In addition, the raised floor can be adapted for future modifications.

- Available in wood core, steel, concrete, aluminum, and panels
- Variety of panel options and pedestal systems
- Laminate finish available in 1/16-inch and 1/8-inch thickness
- Can repair flooring and perform routine flooring maintenance
- Used raised flooring available as an affordable alternative

Best For: Enterprises that want the job done on schedule and within budget.

Access Floor Systems

AccessFloorSystems.com offers everything you'll need for a data center floor, including raised floor panels and components, equipment supports, cable trays, trim materials, grommets, ESD carpet and floor, panel lifters, and antistatic mats. AccessFloorSystems.com has been around for more than 25 years, and it offers same-day shipping on most raised floors, components, and accessories.

- Raised floor systems are available for new and used Tate Bar Concore, Woodcore Panels, Tate All Steel Panels, Tate Concrete Panels, and Tate Aluminum Panels
- Replacement panels and components for new and legacy data centers
- Energy-saving solutions for raised floor penetrations and blanking panels
- High-velocity perforated floor tiles and grates to assist with cooling issues

Best For: Enterprises that are building or remodeling the data center floor and want a company that offers a large selection of products and solutions for legacy data centers.

ASM Modular Systems Raised Access Flooring System

ASM innovations in access flooring

Raised access flooring systems from ASM allow for easy reconfiguration via instant access to wiring and cabling. ASM's raised access floors include technology to address advances in electronic workflow and energy efficiency.

- Incorporates a solid brass positive grounding device in every panel
- Uses nickel chrome plating on critical parts for safety
- Uses a solid tube design that's better than conventional U-shape for high-strength stringers
- Green building elements
- High-pressure laminates available
- Vinyl plastic that's resistant to strong chemicals

Best For: IT administrators who require electrical grounding and want no zinc whiskers and high-strength stringers.

Sealco Tacky Mats

Sealco provides a variety of tacky mats to keep your computer or clean room free of contaminants. Each mat is composed of multiple-layer polyethylene film with a specially treated pressure-sensitive adhesive on one side, which catches the contaminants from shoes or equipment. When sheets gather contaminants, the top sheet can be peeled off to expose a new sheet. The sheets are designed to resist adhesive transfer, preventing sheet-to-sheet de-lamination. Ask about our free removable mat holders that allow easy placement and removal.

- Variety of sizes and colors
- Keeps contaminants away from computer equipment
- Optional company logo imprint
- Mat sheets individually removable and numbered
- Non-beveled edges ensure each sheet is free of contaminants

Best For: Entry ways into computer rooms or any area where dust/dirt can track into the computer room.

Sealeze CoolBalance

Data centers are under pressure to be more efficient in their cool air usage. Newer equipment is more compact and generates more heat than previous generations. The CoolBalance brush seal with XtraSeal™ technology utilizes a thin EPDM membrane that seals the V-gap produced when cables penetrate brush filament. The family of products includes in-floor and surface mounting as well as a circular seal. The CB33 circle seal completely encapsulates the cables, due to the geometry, to offer a very effective sealing solution. CoolBalance comes in a variety of sizes, from 5 x 5 inches to 10 x 24 inches, with circular seals in nominal 4- and 6-inch sizes and other customized solutions to seal around PDUs or inside your cabinets.

- Seals include in-floor design for new and existing facilities, surface-mount for odd-shaped or irregular openings, circle seals for small openings, and wall seals for through-the-wall cable passages
- Sealeze can custom-build sizes at off-the-shelf prices
- Independent testing has verified the effectiveness of CoolBalance in actual installation conditions
- Backed by 30 years of experience in the industry

Best For: New or existing facilities looking for brush products to accommodate a variety of cable cut-out needs.

Tate Access Floors In-Floor Cooling Systems

Tate Access Floors designed three new in-floor cooling products for data centers: the DirectAire airflow panel, the SmartAire variable-air-volume damper, and the PowerAire fan-assist module. The DirectAire panel is designed to deliver airflow to server racks at an angle, which allows 93% of the airflow to enter the face of the rack. The DirectAire panel also eliminates bypass air to save on operating expense in new facilities. The SmartAire dampers give admins electronic control over the amount of air passing through an individual panel, which can help save on fan energy when servers are idle. PowerAire is designed to help in dense server racks and blades where a blast of cooling may sometimes be needed. PowerAire can be throttled up or down based on power requirements.

- DirectAire panels cool up to 28.5kW per rack and can support a design load of 2,000 pounds
- SmartAire dampers allow each panel and rack tandem to be thought of as an individual zone
- PowerAire modules are easy to install in retrofit applications or in new cooling systems
- Three options provide compelling return on investment

Best For: Data center environments that face the challenges of cooling a high-density, variable-load data center.

PRODUCT SPOTLIGHT

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Bergvik Flooring Modular Raised Floor

BERGVIK®
floors on a higher level

In the flooring business since 1970, Bergvik offers the strongest, most stable and modular raised floor available for data centers. Bergvik's engineering department supplies CAD drawings that are suited to your needs.

- The Iso Floor system offers custom panels as an option to fit your equipment depths and allows for optimization to build smaller and smarter rooms; floor heights from 12 to 94 inches
- River Cooling Airflow Panels with high-plume fins provide superior air stratification to cool upper servers when compared to flat bottom panels; the unique 36- x 24-foot panel also allows for more server racks
- Earthquake bracing frames will fit any raised floor and are tested to NEBS standards

Best For: Enterprises that are looking to lower energy costs by up to 40% and add more server racks in the same footprint, increasing their revenue stream.

PDU Cables Air-Guard Cable Seal

Seal raised floor cable openings with the Air-Guard Cable Seal product line and realize an immediate cost savings in the data center. These products significantly minimize air loss and improve static pressure to cool data center equipment, which helps prevent expensive electrical equipment from overheating. Air-Guard is the only brushed floor grommet line to offer a dual-stage sealing system with the most effective seal in the data center, and the only one to provide a safety cover for increased safety and durability when cables are not going through the raised floor cut-out. For the highest-quality products in the data center marketplace and the most ease in sourcing your sealing solution, rely on PDU Cables.

- Dual-sealing systems provides an effective, economical means to eliminate bypass air through cable cut-outs
- Choose from products with overlapping brushes and/or gasket material to seal your specific cut-out need
- Flexible and simple cable routing via removal of floor tiles without disconnecting equipment

Best For: The most effective cable opening seal in a raised floor data center environment.

Contact: (866) 631-4238 | www.pducables.com

Upsite Technologies® KoldLok Surface Mount Raised Floor Grommet

Measurements taken at multiple data centers show that, on average, 60% of valuable conditioned air is not reaching the air intake of IT equipment due to unsealed floor openings. This lost air, known as bypass airflow, contributes to IT equipment hotspots, cooling unit inefficiencies, and increasing infrastructure costs. The KoldLok Surface Mount Raised Floor Grommet is specifically designed to address bypass airflow and its detrimental effects on data center cooling. The ability of the KoldLok Surface Mount Raised Floor Grommet to cover a large tile area makes this product particularly useful for sealing a variety of perimeter openings. It is engineered and designed to seal a variety of existing raised floor tile cutouts and allow flexibility of removing tiles without capturing cables. This product is available in three model sizes: original, large, and extra large.

- Makes re-cabling easier
- Impact-resistant and durable
- Allows tiles to be moved without capturing tiles
- RoHS-compliant
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- 0.02-inch diameter lower filaments

Best For: Sealing cable openings in existing data centers.

Contact: (888) 982-7800 | www.upsitetechnologies.com

Upsite Technologies® KoldLok Wave™ Split Integral Grommet

A study conducted by the Uptime Institute on 19 computer rooms totaling more than 204,400 square feet found that 60% of valuable cooled air was being released by unsealed cable openings. The KoldLok Wave Split Integral Grommet was developed to provide the best seal against this wasted bypass airflow. It was designed to seal openings in new raised floor cutouts prior to the installation of communications, power, or other cabling. The KoldLok Wave's innovative design uses TPE (Thermoplastic Elastomer), which is overmolded to the frame to create a flexible sealing membrane. The KoldLok Wave meets prerequisites for hot aisle/cold aisle best practices and containment strategies.

- TPE technology
- Superior sealing
- Split feature design
- Maintenance-free
- RoHS-compliant
- Easy installation
- Innovative design

Best For: Sealing openings in new raised floor cut-outs.

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HOW TO

Secure Your Wireless Network

Protect Your Employees & Sensitive Data From Outside Threats

Because wireless networks are becoming the norm in business environments due to the influx of smartphones, tablets, and mobile devices into the workplace, it's more important than ever to have strong security and encryption in place. Koroush Saraf, senior director of product management at Fortinet (www.fortinet.com), shares a fictional but realistic situation where an employee could send sensitive data to hackers without even knowing it.

"The threat usually involves a malicious traffic interception scheme, either as a passive scanner or as an active evil-twin access point that's impersonating a real SSID a company is using in their infrastructure," Saraf says. "An employee's laptop will connect to this evil-twin access point, since it can't tell the difference, making it easy for the interceptor to siphon off all of the employee's communication."

This is just one example of how easy it is to lose information during the wireless transfer of data and one reason of many why wireless network security is so important. We'll show you a few steps to take when securing your network, including how to get started and how to manage your implemented solutions.

Assess Your Employee & Connectivity Needs

The first and most important step in securing your wireless network is to understand what you need based on the number of employees you have, what types of devices they're using, and how many total devices will need access to the network. From there, you'll know exactly how big the network will need to be and, in turn, get a good idea of how many access points you'll need to protect. Then, it's a simple case of understanding what type of solution will fit your specific environment the best and ensuring that it will be reliable and easy to use.

Tools Of The Trade

After you've assessed your overall security needs as a company, it's time to choose a type of security as well as the solutions that help you achieve the highest level of security. For instance, Teng Tai Hsu, executive vice president at 4ipnet (www.4ipnet.com), suggests companies invest in solutions that have WPA/WPA2 with AES encryption and 802.1x authentication because this will protect the network as a whole and prevent outside access from unwanted users. But if you are working with hundreds of access points and feel overwhelmed at the thought of managing all of them, Hsu says that WLAN controllers are great for centrally managing wireless networks. "WLAN controllers can help reduce the management and maintenance complexity of the wireless network and automatically configure WLAN access points," he says.

Going back to his previous example, Saraf recommends that in addition to WPA or WPA2 enterprise-level security, companies should find a solution that can detect rogue access points that may pose a danger to their infrastructures and employee laptops. Saraf stresses the need for a two-pronged approach where your internal access points are protected from outside threats and your internal resources, including employees and devices, are safe from misleading network connections outside of your company.

As with any type of solution in an SME environment, both Hsu and Saraf stress ease of use and adaptability when shopping around for security products. For instance, along with a central management tool, such as a WLAN controller, you should look for solutions that provide regular security reports and analytics, so you can make adjustments to security settings based on that data. The key is balancing the overall complexity that comes with fully featured security solutions with simplified implementation, management, and maintenance tools to ensure that your defenses are always in place and that all of the settings are tuned to your company's specific needs.

Keep Up With The Changes

Security is evolving along with the rest of the IT industry, so it's important to constantly look ahead for the newest solutions to future security issues. Even though you have a solid security platform in place, that doesn't mean you can rest on your laurels and wait for something to happen. A company's security effectiveness is dependent on predicting possible vulnerabilities and addressing them early on, which can save data, man hours, and money. P

Key Points

- You must first gather employee and device information in order to understand how many access points you'll need and the best possible way to protect them.
- Invest in a solution that has at least WPA/WPA2 enterprise-level encryption and use a WLAN controller to help centrally manage each access point and prevent unwanted outside access.
- Always keep an eye out for new security technologies that can help keep your wireless network safe as new threats and vulnerabilities arise.

Action Plan

Teng Tai Hsu, executive vice president at 4ipnet (www.4ipnet.com), provides a quick list of steps to follow when assessing your security needs and setting up your wireless network security:

- Determine the number of users that will have access to the wireless network.
- Determine the number of WLAN access points required to provide the required capacity and coverage. For the service quality of wireless access, it is recommended that each access point not servicing more than 10 users.
- Determine the type of access control policies required.
- Select a WLAN controller type of equipment with the capacity and features that can manage the planned wireless network.

Get Started

When you first start investing in security solutions, it's important to make sure you're getting everything you need from the beginning. Teng Tai Hsu, executive vice president at 4ipnet (www.4ipnet.com), stresses the importance of a WLAN controller because it secures "both the wireless network and wired ports installed in the office to prevent unwanted WLAN access." And Koroush Saraf, senior director of product management at Fortinet (www.fortinet.com), says that investing in unified threat management is important, as well. "Unified threat management includes strong authentication, strong encryption, automated reporting," and many other features that are important for wireless security, Saraf says.

Top Tips

- ✔ Understand that security should be in layers, says Koroush Saraf, senior director of product management at Fortinet (www.fortinet.com). Some products say that they provide high-level security, but if it isn't a layered approach that addresses every facet of the wireless network, it won't be as effective.
- ✔ Only purchase products from companies known for their security DNA, Saraf says, because such companies have dedicated personnel that keep track of threats and have centralized upgrades and feeds to keep wireless systems up-to-date.
- ✔ Saraf says companies should understand that a wireless network is a shared medium with a scarce bandwidth, which means they should purchase business-grade wireless LAN products that not only provide connectivity, but also ensure network uptime.
- ✔ Make sure that you aren't buying a product simply because it is easy to install or because it has the most visibility, Saraf says. Instead, conduct research and focus on finding a solution that solves your company's security problems.

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Make The Most Of Limited InfoSec Resources

Know When To Outsource Security Tasks

SMBs ARE OFTEN short-staffed with few who have InfoSec (information security) talents. The challenge is to know when to build up InfoSec expertise in-house and when to call in InfoSec service providers.

"This is a hard question for SMBs since they often cannot afford to staff the complete set of schools they need to run a secure operation, especially if they are using complex technology," says Jon-Louis Heimerl, senior security strategist at managed security service provider Solutionary (www.solutionary.com).

"The most critical aspect of security is starting with a plan," says Lawrence Pingree, research analyst for the Gartner Group.

According to Pingree, a good InfoSec plan should consist of how the company handles the key pillars of security: confidentiality, integrity, and availability. Pingree says these concepts can be integrated into a guiding set of security policies and then further be integrated into the IT landscape using best practice security standards that functional areas such as systems, applications, network, and development efforts can follow.

"Typically, security policy development can be performed by a security service consulting shop and then integrated into the organization by the IT leadership team," says Pingree.

Smaller organizations work with managed security service providers to create the policies and then further operate the security controls on behalf of the customer when there are resource constraints, Pingree notes.

Develop Security Talent

According to Ed Ferrara, principal research analyst for security and risk at Forrester Research, staff who have come from IT operations or internal audits are good internal candidates to apply to security efforts.

"These types of people can generalize what they know of IT management and internal controls to learn the company's information security needs," says Ferrara.

"An in-house InfoSec specialist for an SMB is probably not a full-function security specialist," says Solutionary's Heimerl.

According to Heimerl, SMBs should normally have someone who can fully support their IT functions, including all system operations, and backups/restore, as well as user management. All of these features have "security" aspects to them, Heimerl says. This is even truer if you add antivirus/anti-malware and firewall management.

At a minimum, in-house InfoSec technical specialists should have CISSP (Certified Information Systems Security Professional) or GIAC (Global Information Assurance Certification) certifications, says Pingree. InfoSec managers should have the CISM (Certified Information Security Management) certification, Pingree adds.

"In-house staff should be information security generalists that understand the information security space," Ferrara says. Certifications can be helpful in determining a security professional's technical and security operations knowledge, but this should be balanced with on-the-job experience.

"So, minimally, the InfoSec specialist at an SMB should be able to fully support these components of secure operations along the lines of IT InfoSec," Solutionary's Heimerl says.

If the focus of this person is "Information Security," they would not necessarily just be responsible for IT security, but corporate security and compliance, says Heimerl. "You do not want an IT guy/gal writing corporate security policies, but you do need some form of policy," he adds.

It's important that the SMB have a compliance officer/compliance authority that can be responsible for any compliance requirements that the SMB may have. "It is most important for the SMB to have on-staff technical skills that can manage and support the systems that are critical to actually operating the business," Hiemerl says.

Part of that is making sure they have the skills to fully support the requisite platforms, he says.

Heimerl adds that if your core business functions operate on a Linux server, you should have in-house Linux support, including someone who knows enough details about Linux that that they can fully support operations, along with security of the platform itself; for example, hardening the Linux box and making sure it is doing the right logging.

Safely Distribute InfoSec Program Tasks

A security organization has four critical functions, says Forrester's Ferrara. These are security program management, IT risk management, security engineering, and security operations.

"Small and midsized businesses will not be able to grow or hire all of the skills they will need," Ferrara says.

According to Gartner's Pingree, operational monitoring and ongoing maintenance are typically first areas of interest in the SMB since they form the most workload.

Ferrara says SMBs should develop relationships with an MSSP or security consultant to address additional skills needed for incident response, forensic analysis, network access control and protection, log management, and intrusion detection.

Strengths & Challenges

According to Solutionary's Heimerl, the advantages of hiring out InfoSec services may include the potential for better service at a lesser cost, and the ability for the SMB to focus on its business and customer support.

"The biggest disadvantages are the perception for loss on control if an outsourcer is doing the work," Heimerl says.

Gartner's Pingree says challenging areas for MSSPs include gaining knowledge of in-house systems and knowing how to connect their service to the operational aspects of the company. Also, taking the alerts generated by external monitoring and making them relevant and actionable are other challenging areas, says Pingree.

When it comes to working with InfoSec personnel, Ferrara says to read contract SLAs carefully because this will specify what the third party will do and not do in case of a breach or other event, and understand the issues around data protection and access control. In addition, Ferrara says that SMBs should consider the following: If my information assets are kept with a third party, what controls do they have in place to protect those assets? Should the information be encrypted? What is the notification process if there is a security event? P

Key Points

- SMBs are often short-handed in technical areas, but InfoSec (Information Security) staff can be recruited internally from IT operations and internal audit staff.
- Internal InfoSec staff for SMBs should be well acquainted with company operations and have InfoSec certifications appropriate to their job duties. Internal InfoSec staff for SMBs should not be expected to handle every InfoSec duty handled by InfoSec staff in larger companies.
- MSSPs (managed security service providers) and InfoSec consultants can handle some InfoSec chores, but they must be familiar with company operations. SMBs should carefully read and fully understand an MSSP's obligations in a service-level agreement, especially in a breach situation.

When To Outsource Security Tasks

The best bet for when to start looking at outsourcing is when the effort does not fall in the core business, says Jon-Louis Heimerl, senior security strategist for Solutionary, a managed security service provider (MSSP).

According to Heimerl, SMBs should consider these questions: Is it a required skill set to "run" my business? Can I do it for fewer resources or funds than an outsourcer? Can I do it better and or faster than the outsourcer?

"If you can answer 'no' to all three, it is a prime candidate for outsourcing," Hiemerl says.

He says that if you can identify bodies of functions that you can segregate, and answer "no" for question No. 2, then those specific functions are candidates for outsourcing.

News

AT&T Job Creation Claim May Be Unrealistic

An economics professor at the University of California, Irvine, is contesting AT&T's claims that its acquisition of T-Mobile will create up to 96,000 jobs. The economist says such a claim is unfounded, especially due to AT&T's plans to eliminate any overlapping jobs in marketing, customer support, and operations after the completion of the proposed merger. The professor outlined his analysis in a press conference regarding the merger and noted that three out of the four AT&T mergers completed since 2005 had resulted in a lower combined total of jobs. The merger is still awaiting approval, after opposition from competing cellular carriers and the U.S. Department of Justice.

CA Company Hacked, Stops Issuing SSL Certificates

The largest certificate authority company in the Netherlands, KPN, has suspended any issuing of SSL certificates after a possible security breach. KPN's Web site used to purchase SSL certificates was hacked with a distributed denial-of-service tool. Although the company has yet to find evidence that certificates have been compromised or that fraudulent certificates have been issued, it is investigating the breach to ensure its production of such certificates remains safe and reliable. Security issues have plagued other certificate authority companies in the past few months, including facilities in Malaysia.

Microsoft Continues Android Patent Deals

Microsoft is pushing for patent license agreements with Huawei, after reaching similar agreements with 10 other Android OEMs. China-based telecom and mobile device manufacturer Huawei is currently in discussions with Microsoft over the proposed agreements regarding Android OS patents owned by Microsoft. Other manufacturers, including Compal Electronics, HTC, Acer, Samsung, and Velocity Micro, have all signed deals with Microsoft. Details of the proposed licensing deal with Huawei have been kept private, but other cross-licensing agreements involve royalty payments to Microsoft. Many of the manufacturers striking deals with Microsoft also produce Windows-based products. According to Microsoft, the company now receives royalties from 50% of Android devices sold.

BUYING TIPS:

Equipment Recycling Services

WHEN YOU WANT TO MAKE SURE your equipment is recycled safely and your stored data is completely erased, choosing the right equipment recycling service is essential. And according to Brian Musil, founder and director of sales and purchasing at Recycle Your Media (www.RecycleYourMedia.com), there is no way for companies to properly handle recycling themselves.

Equipment recycling helps the environment and can slow down the amount of materials unnecessarily ending up in landfills, says Norm Hutton, managing director of sales and acquisitions at DTC Computer Supplies (www.WeBuyUsedTape.net). And the biggest problem, according to Hutton, is that some of this e-waste is toxic.

The need to recycle your unused equipment is about much more than simply cutting costs. Musil notes that e-waste is still the fastest growing municipal waste stream in the United States. Recycling old or unused equipment can also help your company save money and make room for new equipment.

Given that, here's what to look for when choosing an equipment recycling service.

Accepted equipment and services provided. The first things you should look at are what services the recycling company provides and whether your equipment is accepted by the company for recycling. If you're looking to recycle used tape media or equipment, for example, make sure the service company you choose can handle the type of media you have. The same goes for other equipment such as computers and servers.

Different companies also provide different services. Most will pay you for equipment that can be reused or let you donate your proceeds to charity. Some equipment can't be reused, but you can still pay to have it recycled and receive data destruction reports or other documents showing that data was erased. The payment you receive or costs you incur will depend on what you are recycling, so be sure to contact the company to get a quote in advance.

The process. Recycling companies have different ways of getting rid of your IT equipment. Musil says that the first step is contacting one of the company's specialists who can help you decide whether you need onsite destruction or if you want to send equipment to the company for recycling. Most equipment recyclers are flexible and let you choose the easiest option for your individual needs. And if your company or one of your facilities is international, Hutton notes that you'll want to be sure the service provider can arrange and pay for shipping from anywhere in the world.

Check for transparency. You'll likely want as much transparency as possible, so you should make sure the recycling service you choose keeps a history of all the equipment it recycles. You can track your equipment from start to finish and know that your data hasn't been compromised. And as an added bonus, if you want to buy equipment from one of these companies, some of them can provide information showing when it was recycled and where it came from. P

BUYERS' CHECKLIST

- ✔ **Cost.** What is the total cost to recycle your equipment?
- ✔ **Compensation.** Will the service pay you to recycle the equipment?
- ✔ **Transparency.** Does the company let you track your equipment and provide proof of data destruction?
- ✔ **Competitive.** How does a company's price quote and service options compare to other alternatives?
- ✔ **Process.** Will the company pick up your equipment, or do you have to mail it to the company?
- ✔ **Extra features.** Does this company provide any extra services you can't get anywhere else?

KEY TERMS

Data destruction report/certificate.
A document proving that data has been safely and completely deleted from equipment you have submitted for recycling.

Data eradication.
The complete erasure of data from equipment, such as tapes and disk drives, so that no sensitive information is lost or stolen during the recycling process.

E-waste (electronic waste).
One of the biggest problems facing data centers and IT companies. It covers desktop computers, laptops, blade servers, and other larger infrastructure equipment that is thrown away without recycling.

VOLSER (Volume Serial Number Report).
A procedure some equipment recycling services use to track equipment from your company to the recycling facility.

PRODUCT SPOTLIGHT

Equipment Recycling & Disposal

AnythingIT

Description

With a suite of IT asset management services, including testing, auditing, and DoD data destruction and processing, AnythingIT helps government and commercial clients deal with aging technology and the regulatory compliance issues involved with managing it. AnythingIT's consultants will perform an IT asset review and analysis that uses a fair-market evaluation of your current technology.

- Recycle Tomorrow program saves costs in the remarketing and recycling process
- Can process IT assets at multiple ISO 14001-certified facilities globally
- Offers custom-designed channel and non-channel programs for OEMs and integrators servicing both government and commercial clients
- Knowledgeable in disposal processing, data mining, and warehouse systems for IT assets
- Unparalleled past performance servicing public-sector clients
- Innovative trade-in and asset recovery programs

Best For: Government and commercial enterprise organizations that need help making cost-effective business decisions for IT storage, disposal, resale, donations, and recycling.

Apto Solutions

Apto Solutions can help you monetize downsized or liquidated assets, and the company can handle the sales process for you, including market research, valuation, collections, and shipment.

- Features compliance programs for environmental, export, data security, and electronic tracking issues
- Logistics management for recovery and consolidation to the Apto warehouse
- Inventory Management System lets you track the trade process
- Maximize return on investment through an extensive contact network and market knowledge

Best For: Companies looking for a recovery service with experience, credentials, and expertise in technology remarketing.

Data Media Source

Data Media Source buys used tape media, including LTO, AIT, and SDLT, and provides free data destruction, taking care of all the logistic and security concerns you have. Sold media can be turned into cash or exchanged for brand-new media.

- Provides value of the tape and details costs involved
- Tape is shipped with complete chain-of-custody documentation
- Tape is inspected and sorted—you'll be notified of completion
- Once inspection is complete, paperwork is processed for payment

Best For: Companies in the process of removing or renewing their tape libraries.

Paragon Green

Description

Paragon Green can refurbish, reuse, and recycle all types of electronics, including PCs, copiers, and televisions, because of the company's zero-waste policy. All end-of-life electronics are recycled and processed within the United States.

- Equipment is refurbished with working components
- For equipment that can't be resold, the unit is broken down into separate components
- Hardware that's too old for resale is recycled for raw materials
- Data is removed using the DoD's standards

Best For: Enterprises that have a variety of electronics to remove and recycle.

Reclamere

Reclamere's experienced team works with you to develop a data security plan tailored to meet your data destruction, data recovery, and IT asset management needs. Reclamere's experts can also help you execute your legal responsibilities for each phase of the IT equipment life cycle, which helps protect your company, employees, and clients from data breaches.

- Certified data destruction
- IT asset management for safe and secure preparation of electronic equipment
- IT audit and assessment to evaluate a company's risk level
- E-discovery and litigation support to recover information from hard drives for legal procedures

Best For: Enterprises most concerned about the security of outdated IT assets.

Recycle Your Media

Recycle Your Media has a proprietary system for fully erasing data tape media cartridges. The process erases each tape from pin to hub with a magnetic degauss power that's 10 times stronger than DoD degaussing standards. Recycle Your Media offers premium pricing paid now on the following media formats: DLT VS160, 3592, T10000 T10K, LTO-4, AIT-4, AIT-5, VXA X-23 tapes, all brands.

- 100% full-length, pin-to-hub erasure for total security
- Recycle Your Media pays for tapes—no more costly shredding services
- Full chain of custody with a certificate of data destruction
- Volume serial reports
- Drive read/write data test and reset to blank tape, ready-to-write status
- Final quality assurance scan step to confirm full erasure, reset, and data integrity

Best For: IT staff who want a green alternative for recycling tape media that's out of its retention period and those who need full data erasure and reporting on every tape recycled.

Contact: (949) 757-0100 | www.recycleyourmedia.com

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Services

DMD Systems Recovery

DMD Systems Recovery works to minimize your risk and maximize your payback, so you'll get a solid return on investment without worrying about the possibilities of regulatory fines, bad publicity, or litigation from data theft on hard drives that weren't properly sanitized. DMD Systems Recovery offers data deinstallation, packaging, logistics, data destruction, recycling, and remarketing.

- Removal and packaging services to preserve value
- Increased ROI through direct purchase or profit sharing
- DoD 5220.22-M-compliant data wipe and NAID-compliant destruction
- Reduced risk through certificates of destruction and compliance and transfer of ownership

Best For: Data centers, call centers, and companies with large centralized operations.

Contact: (877) 777-0651 | www.dmdsystems.com

Frontier Computer

Frontier Computer has been in the business of helping companies plan, build, and maintain their IT infrastructures since 1976. The company buys used computer equipment, excess IT hardware, and enterprise-level IT equipment, including servers, workstations, peripherals, storage arrays, and networking tools.

- Buys excess new or used enterprise equipment
- Offers environmentally friendly end-of-life services for obsolete IT assets
- Works with Cisco, HP, IBM, and Sun hardware
- Global presence helps Frontier respond with speed to customer demands

Best For: Enterprises that want to sell their equipment to a company with decades of experience with IT hardware.

Intechra

Intechra focuses on data security and protecting clients from liability by leveraging technology, processes, and customized solutions into the right mix of end-of-life asset management and disposal services. Intechra's IT asset disposition offers waste-free, worry-free service, covering all steps of the process, including logistics, data security, and the demanufacturing and recycling of materials.

- Ultimate data security protection
- Environmentally compliant disposal
- Comprehensive remarketing, redeployment, and donation strategies
- Full indemnity against risk

Best For: Enterprise or global organizations needing a secure, compliant global IT asset disposal strategy.

Secure MDE

Secure MDE offers a guaranteed solution for end-of-life data. The Secure Shark high-capacity destruction service shreds media your company no longer needs—media that's full of sensitive data, takes up space, and causes you anxiety. Secure Shark can handle jobs of any size, anywhere in the country. Best of all, the process safeguards the environment by recycling 100% of all resultant material.

- Cost-effective: Eliminates labor costs of wiping, disassembling, or degaussing
- Secure: Onsite personnel can monitor the destruction process and verify the results
- Convenient: All destruction takes place at your site; Secure MDE can handle quantities of any size
- Environmentally friendly: Exceeds EPA, OSHA, state, and local environmental laws

Best For: Organizations of any size that want to responsibly, securely dispose of end-of-life media.

WeBuyUsedTape.net

WeBuyUsedTape.net pays top dollar for your new and used tapes. WeBuyUsedTape has been in the business of purchasing new, used, excess, and surplus magnetic media for more than 35 years. It uses regulation-approved, secure data eradication processes and environmentally friendly disposal programs to give organizations a safe and economic incentive for recycling used media. No-obligation, confidential quotes on your tape media are available at any time.

- Simple process: Submit your list of media; receive a confidential, no-obligation offer within 24 hours; and ship your media to us.
- Processes meet HIPAA, Gramm-Leach-Bliley, Sarbanes-Oxley, and other regulation requirements
- Data Destruction Certificates document your transaction and provide proof of complying with recycling and data eradication processes

Best For: Enterprises needing a secure way to dispose of new, used, excess, and surplus magnetic media.

Contact: (800) 821-1782 | www.WeBuyUsedTape.net

World Data Products

World Data Products has partnered with Shred-It to provide a drive- and media-shredding service. Using Shred-It's specially engineered, state-of-the-art shredding machines, World Data Products can pulverize hard drives and tape media into tiny particles, making it impossible for others to restore the data and safeguarding your organization against vulnerabilities from stolen payroll, personnel, and customer information.

- Services available for hard drives, backup magnetic tapes, floppy and Zip diskettes, and optical media
- Drives and media can be destroyed onsite or at one of Shred-It's facilities
- Drives are recycled or disposed of per EPA standards and local and state laws
- Certificate of destruction verifies the job has been securely completed

Best For: Enterprises in need of secure destruction of sensitive company and customer data on hard drives and other media.

Data Center Automation

Streamline Processes & Free Up Time For More Important Tasks

AUTOMATION HAS BEEN SAVING data centers both time and money for a few years now, and it's only become more critical as virtualization becomes more and more popular. But how is all this automating changing the face of the modern data center? As it turns out, as with any new or different technology, automation is making things possible that were once inconceivable; however, it comes with costs that data center and IT managers can't afford to ignore. Here is a look at the ups and downs of data center automation.

Prioritize Your Automation For The Best Results

The data centers that are showing the fastest ROI are the ones where managers aren't making the mistake of trying to boil the ocean, according to Luke Kanies, founder and CEO of Puppet Labs (www.puppetlabs.com). Rather than tackling vast, 18-month automation projects, he says, the most success can often be found in two-week implementations to handle the most painful and immediate problems.

"You want to start with the things that interrupt you every day and that are causing inefficiencies or business effects like outages or slow payments or customer responses," Kanies explains. "For one thing, that allows you to show the impact right away, and for another, if you try to automate other things and these problems are interrupting you, you'll constantly be hearing, 'Stop working on your automation project, the server is down again!' Getting the most painful things out of the way gives you some breathing space to decide what's really important."

For example, Kanies says that automation can both be essential to and pave the way for virtualization, which can offer significant ROI fairly quickly. "The number of virtual servers in production is now greater than the number of physical ones, and system administrators simply cannot efficiently configure and manage this exploding volume of virtual machines without automation," he explains. With the right technology choices, though, rather than waiting to automate until after virtualization is completed, automation can help make virtualization easier and faster, he says.

Kanies says that those data centers with a handle on automation are also in a better position to adapt quickly to changing conditions. "In automated data centers, technology take-up is much faster," he says. "When applications change, can you adopt the new technology or deploy services quickly to support new traffic or customers? When you can deploy those services in minutes rather than months, you're in a much better position to move quickly. If a new Web service might get you 10% more efficiency, in a manual world, the process of swapping out might overwhelm those gains. But if you can spend four hours to automate it and maybe another 16 to babysit the upgrade, that's worth it to get that 10% gain."

Key Points

- Don't boil the ocean when you're thinking about automating. Focus on pain points where you can show significant ROI or efficiencies, then build on those successes.
- Automation can save time and improve your focus. By automating the technical details, you position yourself to better focus on business needs, save on employee headcount, and attract smarter, better people.
- Automation doesn't come free. Be prepared to monitor your power and cooling more carefully and to take security concerns into account so that your automation efforts can't be turned against you.

Concerns To Keep In Mind

Doing a good job with automation can get your focus off of technology and onto meeting expectations. "If you can automate away the technical details, you can focus on whether you're meeting your SLAs, fulfilling expectations, and running most efficiently," Kanies says. But all this new capability doesn't come free.

Matt Zieg, product marketing manager at Emerson Network Power (www.emersonnetworkpower.com), warns that you can't think about automation solely in an IT vacuum. For example, data center managers who have significantly invested in automation have also found themselves needing more power and cooling at unexpected times and places. "When you automate the movement of loads from server to server or the task of bringing more capacity online, that has an impact on available power and needed cooling," Zieg explains. "Without communication, knowing where loads will flow, you may not have enough power or cooling available, which can lead to running a server too hot so that it slows down and isn't as efficient, or even to overloading a circuit and powering off a whole segment of the data center."

There are some security concerns to keep in mind, as well. Joseph Essas, CTO of online dating company eHarmony, points out that his company has automated the process of introducing new devices to the network when utilization goes over certain thresholds. That allows them to react quickly to spikes in utilization or traffic. "But we have to set that up carefully, because if someone starts a denial-of-service attack on you, the last thing you want to do is provide more capacity or machines automatically during that attack," he says. (For more information on eHarmony's automation strategies, see the "Automation In Action" sidebar.)

The more you automate, in fact, the stronger the alignment has to be between development and operations, and between development/operations and the company's business goals. "When application development goes from the developer's keyboard to production in 10 minutes, you have to have strong alignment," Kanies says. "You need to know that this is really OK, and this is really what's needed. If you're going to provision 10,000 machines in 60 seconds, you really can't afford to have a misalignment between development and operations. It's imperative to have a clear vision [and] to understand what they're doing and why they're doing it." P

> "You want to start with the things that interrupt you every day and that are causing inefficiencies or business effects like outages or slow payments or customer responses."
>
> *- Puppet Labs' Luke Kanies*

Automation In Action

Joseph Essas is CTO of online dating company eHarmony, based in Santa Monica, Calif. He's been there for four years, and before that, he spent six years at Yahoo!. Based on his experiences at Yahoo!, Essas began pushing automation the day he started at eHarmony.

The company started small, building a tool based on open-source software that managed its inventory tracking. eHarmony has two data centers, one in Los Angeles and another in Las Vegas, and that means managing about 2,000 switches, routers, servers, and other devices. And although the company employs system administrators, developers, and other IT personnel, just two people manage all of that hardware. "We wouldn't be able to do that without some tools and processes to manage faster and better," Essas says.

Essas is glad to report that automation has made it possible for eHarmony to save the salaries of several full-time employees, which means hundreds of thousands, maybe a million in savings every year. But he says it has the side benefit of attracting better people, too. "Good engineers and administrators want to work on interesting problems, not on moving boxes around," Essas says. "To attract somebody good, you have to convince them they'll be solving problems and working on interesting things."

News

Adobe Restructures, Lays Off 750

Adobe announced that it is laying off 750 workers in North America and Europe and restructuring its operations to focus on digital media and digital marketing software. The company will reduce its investment in some of its enterprise product lines and increase investment in Creative Suite products and HTML5. Adobe's enterprise products produced less than 10% of its revenue last quarter. Adobe also maintained its revenue projections for the quarter, which ends Dec. 15. The company is forecasting fourth quarter sales of between $1.075 billion and $1.125 billion. The company also expects $87 million to $94 million in restructuring costs during the fourth quarter.

Google's Green Energy Czar Departs

Google announced that Bill Weihl, who led the company's clean energy initiatives for the past six years, left the company in mid-November. Weihl helped to guide Google's research and investment in green technologies and led an initiative to improve the energy efficiency of Google's data centers. Google did not announce Weihl's plans after leaving the company and did not say whether it would appoint a new green energy czar. Weihl, who joined Google in 2006, was formerly CTO of Akamai Technologies.

Salesforce.com Buys Model Metrics

Salesforce.com has agreed to acquire Model Metrics, which provides cloud computing consulting and services. The deal is meant to expand Salesforce's portfolio of social, mobile, and cloud computing services. Model Metrics, which advises more than 500 clients on their cloud computing deployments, has developed mobile applications for the enterprise that run on the iPhone, iPad, and Android devices. Salesforce says that Model Metrics employees will become part of its strategic services organization after the acquisition is complete. The companies did not disclose financial terms of the deal, which is expected to close by the end of January.

Introducing Sentry Power Manager 5.0. One unbelievable solution.

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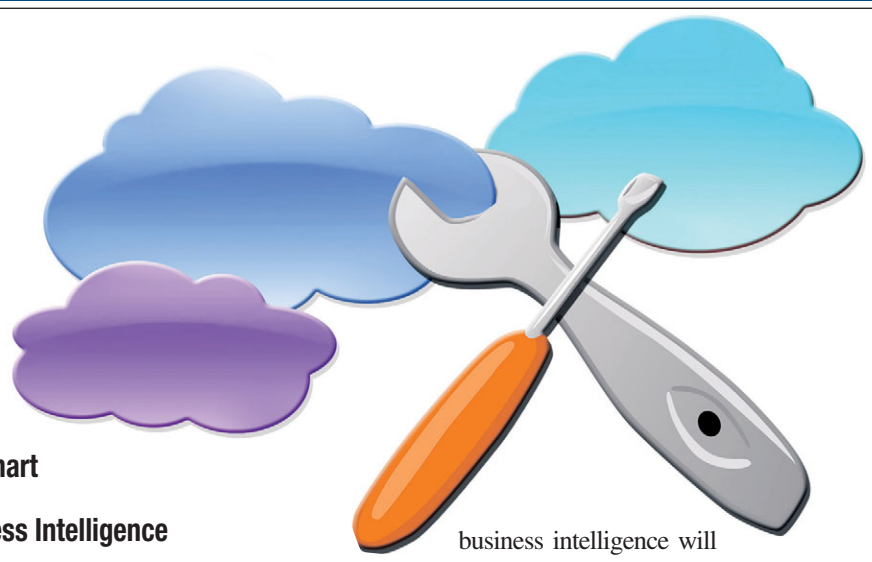

As more enterprises shift services and operations to the cloud, data center managers are examining their skill sets against the needs of the future. Traditional areas of expertise may be less useful in the new landscape, and savvy professionals will augment their skills to remain current.

Soup Up Your Service Management Skills

"A significant change occurring among end-user IT organizations is the move away from the break/fix mentality to focus on quality of service delivery," says John Panzica, senior vice president of sales and marketing at FiberMedia Group (www.fibermedia.net). Businesses of all sizes value good service quality, and the ability to deliver that quality at a competitive price will likely come under greater scrutiny in the months and years ahead. "Service management skills are in demand that enable visibility, control, and automation to deliver quality service," Panzica says.

Become A Mobile Maven

Jack Cullen, president of Modis (www.modis.com), says that mobile support and management has become a critical area, and data center managers "are trying to figure out what they're going to do with mobile devices and how they're going to port more applications into a cloud that will give their people more freedom and flexibility with those mobile devices." It's a need that transcends industry, but one that requires skill and expertise to do well. "It has become a pretty key area," Cullen says. "We're seeing that heavily in the financial services vertical."

Boost Your Protection Prowess

Maintaining data and network security, either for compliance purposes or simply because your organization requires it, will become even more important as data centers transition data, services, and applications to the cloud. "A much greater emphasis on security is demanded when cloud services are in the mix—security-related skill sets, especially around networking, will see significant demand," Panzica says.

Cullen agrees that security will be a primary concern. He believes that IT groups will need to examine not only what will be ported to the cloud, but also how the transition will be managed.

Get Smart About Business Intelligence

Data mining and business intelligence are areas on the cusp of entering center stage. Cullen says that data mining "is a term we've heard talked about in the last couple of years, but maybe it hasn't really gained the momentum that I think we're going to see now. Businesses need to gain some informational advantage over their competitors, and they use data mining to do that." As enterprises leverage the cloud to capture and store increasing amounts of information, sifting through that raw data and then translating it into actionable business intelligence will become sought-after skills.

Increase Your Infrastructure Talents

As more services are outsourced to cloud providers, the core responsibilities of administering the remaining data center functions will gain greater visibility and likely will become accountable at a higher level. "Data centers should be investing in skill sets that can run and manage IT infrastructure—server, network, storage, and security administration skills," Panzic says. P

Best Tips

- **Make old things new again.** Application developers with the skills to migrate legacy applications to the cloud will be in greater demand, with knowledge of open-source technologies at the forefront.
- **Virtualize your expertise.** Gaining application experience in and around a virtualized environment is going to make you more valuable than if you've only worked within the traditional data center environment.
- **Work on the basics.** Soft skills that service providers demand, such as client satisfaction, adaptability to retraining and cultivating new skills, and an ability to productively incorporate flexible work hours and telecommuting, will be important considerations for hiring managers.

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Understanding The 9s

Learn The Importance Of Uptime & How To Maximize It In Your Data Center

Even a few minutes of downtime, depending on what it affects, can lower productivity, cause you to lose potential sales, or worse. But you may ask yourself what the difference is between 99.9% and 99.99% uptime and whether it's worth the cost to achieve an extra 9 or two. Phil Didaskalou, CEO of Uptime Software (www.uptimesoftware.com), offers a potentially frightening situation for your company that expresses exactly how important uptime is and why that extra 9 can make a world of difference.

"You've compared to other vendors, looked at your budget, and everything seems about in line with what you can afford, [so] you sign up with the vendor confident that the 99.9% uptime is good enough for your business," Didaskalou says. "Two weeks later, your company launches an annual 400,000-email campaign on Wednesday at 1 p.m., which you have figured out is the best time to reach your audience for this once-a-year promotion. One hour later, your new Web-hosting provider experiences 20 minutes of complete downtime. Statistically speaking, you know that most of your email recipients will open and click through your promotion within 60 minutes of campaign launch. So what just happened? Well, you might have just lost 30% of your audience."

What Do The 9s Really Show You?

With some simple calculation (8,760 hours in a year multiplied by 0.001, 0.0001, etc.), you find that with 99.9%, 99.99%, and 99.999% uptime, you can expect your total downtime for the entire year to be 8.76 hours, 52.6 minutes, and 5.26 minutes, respectively. In the most general terms, the more 9s there are in your uptime percentage, the less likely you are to have extensive downtime.

If your business sells products primarily through a Web site, then it's easy to see how these uptime percentages will affect you. Imagine you sell $100 worth of merchandise every minute. With 99.9% uptime, you stand the chance of losing more than $50,000 of sales every year compared to a $526 loss with 99.999% uptime. But there are other repercussions, such as regular downtime hurting your company's reputation.

From an internal standpoint, downtime can make a difference in productivity. If employees don't have constant access to servers, networks, and other essential tools, it's difficult for them to do their jobs. The most important thing is to find an uptime solution that is not only cost-friendly, but will ensure that your company doesn't have downtime at unacceptable times.

Shopping For Solutions

Before you start looking at uptime solutions, you must first look at your company's needs. You must find a product that covers all of your physical servers as well as virtual and cloud environments and correctly calculates your uptime so you can optimize your infrastructure accordingly. You should also decide which times during the day are most important to have uptime, how often applications and services should be monitored, and how much downtime is acceptable during off-hours, Didaskalou says. And once you answer those questions, you should research all possible service providers to make sure their capabilities align with what your company needs.

"I would suggest digging a lot deeper," Didaskalou says. "Ask what monitoring tools they use, what platforms they are running their monitoring software on, and what hardware backup and failover systems are in place for their monitoring and hosting infrastructure."

Didaskalou recommends that companies monitor and calculate their own uptime and downtime to ensure that they are actually receiving the amount of uptime they are paying for because it's a considerably large investment to opt for 99.999% over 99.99% and so on. The more often and accurate your monitoring, the more likely you are to spot consistency or inconsistency.

Learning & Improving

Companies that understand how important uptime is, what their most crucial time periods are, and what level of uptime they need to be successful will obviously be ahead of the curve, but it doesn't stop there. You have to research which of your applications, services, and other business tools are most vulnerable to potential downtime and find ways to prevent it. You must also fully understand every aspect of uptime and the services you use in order to improve your efficiency and always be available to your customers. Didaskalou also provides a few other things to keep in mind so you can avoid a worst-case scenario.

"Know what uptime means to you in terms of your business and specify critical and off-hour periods," he advises. "Establish and document availability goals. Build up a culture of accountability and customer focus within your operational staff. Deploy solid tools with accurate monitoring, alerting, and SLA reporting to create the necessary feedback loop. Make sure you understand what your SLAs mean and the integrity of the data your vendor is using." P

> "Know what uptime means to you in terms of your business and specify critical and off-hour periods. Establish and document availability goals. Build up a culture of accountability and customer focus within your operational staff."
>
> *- Uptime Software's Phil Didaskalou*

Key Points

- Uptime is essential for maintaining your company's reputation, having your products and services available to customers, and being productive during peak business hours.
- Each additional 9 can be viewed as a decrease in downtime as long as the service you use to calculate your company's uptime and downtime is accurate.
- The keys to improving uptime are to know what your company needs and to constantly monitor your applications and infrastructure to identify weak spots.

Better Monitoring Intervals Mean More Accurate Measurements

Some uptime monitoring solutions only check services and applications in five- or 10-minute intervals and can miss small periods of downtime in between. This can lead to inaccurate readings and the appearance of a better uptime percentage than you actually have.

The best way to combat this is to either regularly monitor uptime yourself or to find a solution that monitors in the smallest time intervals available. If you aren't constantly monitoring your systems, you could end up paying for 99.999% uptime and only be getting 99.99% or worse over the course of a year.

News

IBM Supercomputer To Study Climate Change

The National Center for Atmospheric Research has selected IBM to build a 1.6-petaflop supercomputer to assist in atmospheric and climate change research. The contract is valued at $25 million to $30 million. The system, called Yellowstone, should be finished in early 2012 and be ready for research by next summer. Yellowstone, which will have about 149TB of memory and more than 74,000 processor cores, will be about 30 times more powerful than NCAR's current system and will be housed at a new $70 million facility in Cheyenne, Wyo. The system is one of the most powerful supercomputers dedicated to Earth sciences and will also rank among the world's fastest supercomputers, NCAR says.

Buffett Amasses 5.5% Stake In IBM

In an interview with CNBC, Warren Buffett revealed that his holding company, Berkshire Hathaway, has bought about 64 million shares of IBM and now holds a 5.5% stake in the company. Berkshire has spent about $10.5 billion since March to buy the shares, making it IBM's largest institutional shareholder. Buffett says IBM is a good bet partly because it has offered a specific public earnings roadmap, under which it plans to deliver earnings of $20 per share by 2015. Buffett said the company's management is also a strong point, and it has a clear succession plan for its CEO. Ginni Rometty, currently the company's head of global sales, will succeed Samuel Palmisano as CEO on Jan. 1.

New Apple Chairman Of The Board

Apple announced that board co-director Arthur Levinson will take Steve Jobs' place as the chairman of the board. Apple also appointed Disney CEO Bob Iger to the board. Levinson, who has been a board member since 2005, is the chairman of Genentech, a biotech company, and a board member of Roche, a drug manufacturer. He also served on Google's board until 2009. Iger, Disney's CEO since 2005, is expected to become chairman of Walt Disney Co. in March and step down as CEO in 2015.

SIX QUICK TIPS

Ensure Successful Offsite Backup

Note Important Features, Understand Benefits & Reduce Costs

One of the most important things any enterprise should do is back up its data. Every company has a multitude of data on hand, including HR, personal, and customer information, that needs to be protected. But it isn't enough to simply store it on hard drives and other storage solutions inside the company.

Researching and investing in offsite backup solutions is critical. With these services, you can store crucial data virtually online or physically at an offsite facility that's safe and secure. Plus, offsite backup protects your stored information from potential disasters and system failures within your company. Here are a few tips to keep in mind when shopping for and maintaining an offsite backup solution.

✔ Know The Most Important Features Before You Commit

The first thing to consider when looking into offsite backup solutions is your company's needs and what features can aptly fulfill those needs. For instance, smaller companies may be able to invest in unmanaged or "self-serve" backup services that require the customers to initiate and manage their backups. In comparison, larger companies should invest in managed solutions that aren't necessarily "set it and forget it," but are much more automated. With either option, the common thread is that someone must be present to actually manage the backups and ensure they are working properly.

"Effective backup requires either a fully managed service from your backup provider, or in-house personnel with specialized training who are performing regular review and backup testing to ensure it meets the business' needs," says Jim Carroll, president of Carroll-Net (www.carroll.net). "At a minimum, backup tasks and logs should be checked weekly. And at least four times a year, someone with knowledge of the organization's infrastructure should review the list of backups."

Carroll says that companies should also review regulatory compliance when researching backup solutions, whether it's internal regulations or government-mandated ones. You should also make sure the backup service includes deduplication, so you aren't wasting storage space on already backed-up information, which can be costly if it goes unnoticed.

✔ Decide Between Tape & Online Or Use Both

In addition to managed and unmanaged solutions, there are two common types of backup. One is online backup, which is where data is backed up via an Internet connection and there isn't necessarily an offsite facility dedicated solely to your company's data. The other type is tape-based, which means that data is physically written onto tape and stored that way. Tape-based backup can be utilized both onsite and offsite depending on your preferences. The important thing is to know the strengths of both backup types and to utilize both if at all possible.

"With payroll information or other data that you don't expect you'll readily need, but may need for government or industry regulations, you might look at tape as a better option because it's less expensive," says Blaine Rigler, senior vice president and general manager of data backup and recovery at Iron Mountain (www.ironmountain.com). "If data is backed up that you may need instant access to, then you may want to look at cloud-based solutions."

Rigler recommends that enterprises use a combination of both backup types to create a solid backup system that is effective and safe but will also save the company money in the long run.

> "Effective backup requires either a fully managed service from your backup provider, or in-house personnel with specialized training who are performing regular review and backup testing to ensure it meets the business' needs."
>
> *- Carroll-Net's Jim Carroll*

✔ Evaluate Every Aspect Of An Offsite Backup Provider's Services

Carroll provides a series of questions you should ask yourself when evaluating an offsite backup solution:

- Does the service also include onsite backup?
- What type of support is available for installation?
- Is the data stored in the United States or overseas?
- Who owns the data center where the information is stored, and who has access to it?
- How long are backups kept?
- What bandwidth is needed, and are there additional costs involved?
- Is there a cost for restoring data?

✔ Put A Strong Focus On Recovery In Addition To Backup

Offsite backup is important for storing data in case of disaster, but it's possible to get caught up in the backup portion of the service and overlook the importance of recovery. Enterprises back up data in order to have a restore point for the company's system; this aspect of the backup solution should be equally researched.

According to Rigler, enterprises must develop a "recovery time objective" to know which types of data are needed and how quickly the company can gain access to them in case of disaster. And even before that, you have to ask yourself if you can get that needed information back once it's lost. "If you think about not being able to restore information about your customer, financials, or employees, the viability of your business is in danger," Rigler says. P

Best Money-Saving Tip:

✔ Only Back Up What You Need

"The best way to cut costs and still maintain great service is to review the list of backup tasks," says Jim Carroll, president of Carroll-Net (www.carroll.net). "Often, organizations back up obsolete data files. Examples of this are emails and documents from ex-employees; sales proposals from years past; copies of operating system CDs; and even personal, non-work-related images, music, and movies."

Make sure the backup solution you choose has in-depth customization options, so you can pick and choose which file types or folders are backed up. This will prevent unnecessary mistakes and save you time as well as money by not quickly filling up your allotted storage space with nonessential information.

Smartest Tip:

✔ Regularly Test Your Backup Service

It may seem like common sense, but you must test your backup service as often as possible. Backups are in place in case of disaster or data loss, and it's important to know that your information is being stored correctly and that you can access that information when you need to.

"If you're going to go through the time and expense to create an offsite backup solution, just make sure that it works," says Blaine Rigler, senior vice president and general manager of data backup and recovery at Iron Mountain (www.ironmountain.com). "Do the due diligence up front to make sure you selected the right partner and test the solution that you put in place, because without the data, there is no recovery."

BONUS TIPS:

✔ Look for free trials whenever possible.

"The best way to learn about a product is to try it out," says Mike Evangelist, CMO at Code 42 (www.code42.com). "Verify that the service has a generous free trial period or a refund policy and get all your questions answered during your trial period."

✔ Store your data in multiple locations.

"Never have your data in a single location," Evangelist says. "Make sure that your backup service allows you to back up your data both with an offsite service, for protection, and to local attached drives, for convenience."

Key Points

- Flash-based SSDs cost more per gigabyte than HDDs but offer major TCO benefits.
- Beyond noise, reliability, and power consumption advantages, SSDs greatly outpace HDDs where access and read rates are concerned.
- Primarily for endurance reasons, consumer-oriented SSDs aren't suitable for enterprise deployments.

Understanding Flash Storage

Flash-Based SSDs Offer SMEs Numerous Benefits

THE BIGGEST OBSTACLE *preventing more SMEs from deploying flash-based storage is cost. However, as new developments are made and technologies and processes are streamlined, that cost premium is beginning to change, says Scott Stetzer, vice president of technical marketing at STEC (www.stec-inc.com). Add in the considerable TCO benefits flash storage can offer, and the flash storage environment is shifting from IT asking "What is an SSD, and what can it do for me?" to an environment where, within five years, "you'll see virtually every deployment will use SSDs to some greater or lesser degree," Stetzer says.*

WHY FLASH IS HOT

Unlike HDDs with their moving parts, flash-based SSDs, or solid-state drives, use nonvolatile NAND chips consisting of MLC (multi-level cell; less costly) or SLC (single-level cell; faster and more reliable) to store data, meaning no moving parts or noise, less power consumption, and much faster access and read rates, with enterprise-class SSDs approaching 3GBps speeds. Compared to DRAM-based SSDs, flash-based SSDs aren't as fast access-wise but don't need constant battery or external power to retain data as with DRAM models. Key to any SSD is its controller, the embedded circuitry linking the NAND chips and computer that performs various functions, including error correction.

Gary Drossel, vice president of product planning for SSDs at Western Digital (www.wdc.com), says enterprise-grade flash storage indicates flash that's usable for enterprise storage, or "SSDs or other non-volatile memory-based products specifically designed for the rigors of data center applications," including supporting multiple users, providing 24/7 operation, and lasting for five years.

CONSUMER VS. ENTERPRISE

Though flash-based consumer SSDs provide speed and reliability benefits, they lack enterprise SSDs' endurance. According to Daryl Lang, vice president of product management at OCZ (www.oczenterprise.com), "Most of us write very little data to storage in normal laptop use; however, data centers are writing data 24/7, making it critical for flash storage to last longer." The difference, Drossel says, is analogous to enterprise HDDs vs. desktop HDDs. Beyond being configured specifically for rigorous demands, he says, enterprise SSDs typically use more robust and expensive non-volatile flash memory, possess more sophisticated and expensive controllers and firmware enabling higher I/Ops, and last longer. "Enterprise SSDs are usually rated for 10 full drive-capacity writes per day for five years, where client SSDs are more often rated for 20GB per day for one to three years," he says.

A 100GB SSD should enable IT to write 1TB per day to the drive and "still expect it to survive the five-year warranty," Stetzer says. That terabyte of fast, reliable capacity daily, says Scott Harlin, STEC public relations manager, is needed for "very mission-critical applications, online transaction processing, supporting email and Web servers, data logging, database activity, analytics, and financial accounting."

COST BREAKDOWN

Though SSDs are expensive, they're not intended to replace every HDD in your system, says Stetzer. "You use them effectively to re-architect and return TCO on a deployment." If IT approaches SSD usage correctly, he says, they can "actually reduce the cost of the box being deployed and still keep the same capacity as a pivot point, deploying a different model using an SSD to actually accelerate the entire box."

Lang says that by running some TCO analysis, it's easy to see that many enterprise data centers have been overbuying on HDD capacity just to get performance levels to a point where their workloads can be met. "This addresses the CAPEX TCO, but OPEX TCO is just as compelling with SSDs [operating] at only a few watts compared to HDDs, which need as much as 15 watts per drive," Lang says. "Moreover, spinning HDDs require more cooling and result in additional electrical expense."

Gossel says data center efficiencies must increase dramatically in terms of performance and gigabyte of storage per dollar, per unit of power, and per unit of data center floor space. SSDs, he says, "excel in performance for these metrics." P

Good Intentions

When choosing flash-based SSDs, know the workload and applications at which you'll be aiming them. Beyond re-architecting configurations to take full advantage of an SSD deployment, Scott Stetzer, vice president of technical marketing at STEC (www.stec-inc.com), says you should consider the size and amounts of the data you're dealing with, which will factor into the SSD caching solution needed. When considering SSD providers, Daryl Lang, vice president of product management at OCZ (www.oczenterprise.com), advises that you check what a provider does to improve endurance of the flash to maximize the product lifespan, what support/customization services it provides, and what reliability features it has available.

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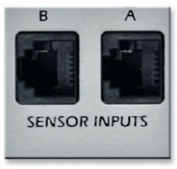

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Is Your IT Department Ready For The Future?

Assess Your Current Status, Existing Trends & Future Technologies

Preparing for the future can seem like a thankless task. Back in 2001, for example, Windows XP was cutting-edge, the first-generation iPod had just been released to a chorus of naysayers, and only a small minority of employees (usually just the C-level executives) had mobile devices of any kind.

But somehow your organization managed to handle such sweeping changes as virtualization, data mobility, and heterogeneous environments, among other things. Nevertheless, it still makes sense to plan for your IT department's future because no matter how different things end up being in 2021, a good game plan will help you handle whatever changes may occur.

Before Diving In

Of course, you can't prepare for the future until you know your current situation. "It's not just what IT is offering, but as you dive into that, what toolsets are you using and what tools you're missing that keeps you from offering the optimal experience," says Jeff Nessen, practice director for platform virtualization solutions at Logicalis (www.us.logicalis.com).

For his part, Nessen recommends performing a series of analyses that tell you the things you don't yet offer and the reasons behind these gaps. "Ask yourself what's preventing you from offering the ability, say, for end users to get to their data from any device and figure out an implementation plan to get from point A to point B," Nessen says.

Keeping Your Infrastructure Going

"In the past, it might have been acceptable to have a system down for hours at a time, but today, a system that is down for even one hour could mean an enormous financial loss for an organization," says Moosa Matariyeh, CDW storage solution architect (www.cdw.com).

Nevertheless, data protection and backup strategies often are lacking in IT departments. "IT managers need to look at the service-level agreements (SLAs) needed for the organization's applications and set their backup and recovery strategy around those needs," Matariyeh says.

In addition to nailing down those SLAs, you also need to understand the data retention profiles around your applications and create a protection strategy that matches up. "Most instances require a mix of backup to disk or tape alongside replication, both synchronous and asynchronous, to meet both objectives," Matariyeh says.

Data Sensitivity Training

As virtualization and cloud computing take on greater roles within IT infrastructure, the rules around what constitutes sensitive data continue to evolve. "Data that you may not have considered sensitive in the past is indeed becoming sensitive," says Todd Thiemann, senior director of product marketing at Vormetric (www.vormetric.com). "People didn't always consider email lists to be sensitive, but the recent Epsilon data breaches [caused] a lot of email addresses and names to be compromised and really had a negative impact on the various entities that then had to disclose those breaches."

Additionally, data mobility has skyrocketed over the past few years and promises to become more so as time passes. "You're ultimately responsible for [your data], even though it may be in a cloud infrastructure, and you need to consider how you're going to secure that and avoid compliance issues or implications of potentially lost data," Thiemann says.

Therefore, you want to have articulated data encryption policies in place. "You need to consider the operation efficiency and consistency of a solution," Thiemann stresses. "Frequently, [data centers develop] little islands of encryption where they use different types of technologies, and administratively, that gets to be quite painful."

Thiemann suggests that you perform data discovery exercises to figure out what data your organization considers to be sensitive. Then, find solutions to secure that data in a consistent fashion, "whether it's structured data in a database or unstructured files [such as] reports or images where you can apply policies amongst these various different data types," he says.

Rethink Virtualization Sprawl

Of course, you can't talk about the future without discussing the proliferation of virtualization. "That trend should continue [because] most IT shops have seen the benefit of virtualizing both from an administrative burden standpoint, as well as a cost-related [one]," Nessen says.

However, Nessen points out the recent overuse of the term "virtual sprawl," where virtual machines replicate themselves like weeds. "Nobody wants a server just because they want a server," he says. "They want a server so that they can do something with it, [such as] investigate new ways to make money or optimize a process," Nessen says. "The beauty of virtualization is that all those potential revenue streams can be investigated more cost-effectively than the old way."

Ultimately, the number of virtual machines you use doesn't matter, but your management of them does, Nessen says. He recommends that you take stock of your VMs and figure out the reasons for having them, determine the tools and processes you need to have in place to manage them on a day-to-day basis, and figure out strategies to manage your VMs over the long-term.

"That means taking a look at where your entire business is going, where the industry is going, and aligning yourself to the best processes, methodologies, and pricing," Nessen says. "That way you'll be able to take advantage of technology trends more easily than if you were still operating a traditional system." P

Key Points

- You can't prepare for your future if you don't have a grasp of your current IT situation.
- Plans to keep your infrastructure working 24/7 must include coherent data protection policies.
- To take full advantage of virtualization technologies, figure out the purpose behind the VMs you plan to deploy.

Top Trend: Consumerization Of IT

As the so-called "Facebook generation" continues to enter the workforce, IT managers must find ways to accommodate these workers' expectations that they will be able to access their information in a variety of different ways.

"When IT tells someone from this generation they can't do whatever thing they've been doing most of their lives, it's an easy remedy for them to go to an app store. But that easy remedy probably violates most every governance and compliance regulation a company has," says Jeff Nessen, practice director for platform virtualization solutions at Logicalis (www.us.logicalis.com). "IT needs to respond to them as quickly and effectively as possible, which is why IT as a service has gained so much traction of late."

BUYING TIPS:

Portable Cooling

FOR DATA CENTER PROFESSIONALS, cooling is as vital a concern as storage capacity and security: Data centers run more efficiently and reliably with the proper temperature. And uptime is everything. Portable cooling options can often make all the difference in a temperature-strained environment because of their set-and-forget programmability, built-in automations, and modular and mobile form factors. With that in mind, there are several tips and key industry trends you need to be aware of before you purchase portable cooling equipment.

Consider your current hardware and capacity needs. To make the appropriate portable cooling purchases, decision makers need to consider their current hardware and capacity needs and provide enough scalability to grow with the organization's future data needs. Gina Dickson, product manager at Black Box Network Services (www.blackbox.com), says the primary concern for any organization is how many BTUs it needs to keep equipment at the appropriate temperature. If you go significantly over capacity, then efficiency suffers; too little capacity, and the cooling equipment won't be able to keep up.

Echoing Dickson's advice, Clark Michel, vice president of Atlas Sales & Rentals (www.atlassales.com), stresses the importance of capacity planning. "The portable should be sized to deliver adequate cooling capacity in a worst-case scenario, such as an extended heat wave or failure of the central system. In fact, it is not a bad idea to oversize portable equipment slightly to allow for these circumstances."

Open or closed loop? Another major consideration with cooling equipment is whether to select an open- or closed-loop system. Open-loop cooling systems utilize a liquid coolant such as water that is exposed to air and the environment. They tend to have a lower initial cost but also require more frequent maintenance and water treatment, and they suffer from reduced efficiency compared to closed-loop systems. A cooling system that utilizes an air- and environment-isolated liquid coolant is commonly referred to as a closed-loop system. Closed-loop systems tend to have a higher initial cost but require less maintenance and provide better cooling efficiency compared to open-loop systems.

Know where the equipment will be used. Consider where the cooling equipment will be operated. If it's a dedicated data center manned only occasionally for upgrades and maintenance purposes, then equipment noise is not a major concern. If the cooling equipment will be in an open office or near employees on a regular basis, then low noise output should be high on the list of priorities.

Look for dependable units. Atlas Sales & Rentals' Michel says dependability should be top-of-mind. "Always look for a high-quality, commercial-grade unit designed to deliver continuous, 24/7 cooling. The low-cost portables available from home improvement retailers may be adequate for residential use, but they do not have the cooling capacity or durability needed for round-the-clock protection of critical electronics."

Power and restart features. Michel also offers advice on a few must-have features. "Make sure the unit you choose has an automatic restart feature. That way, you can be certain it will start up again automatically in the event of a power blip." He goes on to warn that a backup generator may become necessary, and making sure the portable cooler can run on the backup circuitry is vital. P

BUYERS' CHECKLIST

- ✔ How many BTUs do you need to keep your equipment at the appropriate temperature?
- ✔ Do you need a closed- or open-loop system?
- ✔ Where will the cooling equipment be located?
- ✔ How much of a concern is noise output?
- ✔ Commercial-grade equipment offers superior reliability and durability.

KEY TERMS

BTU (British Thermal Units).
Used to measure the amount of energy required to heat a liquid such as water. A single BTU represents enough energy to raise the temperature of one pound of water by one degree Fahrenheit at a constant pressure of one atmosphere. In the context of cooling equipment, BTUs are listed as a given rating per hour.

Closed loop.
A cooling system that utilizes a liquid coolant that is isolated from air and the environment.

Open loop.
A cooling system that utilizes a liquid coolant that is exposed to air and the environment.

PRODUCT SPOTLIGHT

Portable Cooling

Black Box 24U ClimateCab NEMA 12 Server Cabinet

Description

Climate-controlled protection found in Black Box's 24U ClimateCab Server Cabinet lets you install servers without the need for additional cooling or costly infrastructure. These enclosures are NEMA 12 rated, meaning they are ideal for use in indoor locations with falling dirt; circulating dust, lint, and debris; and dripping or splashing liquids.

- Save energy by cooling just the cabinet
- Includes a 6,000 BTU air-conditioning unit
- NEMA 12 rated for protection
- Only 51 x 28 x 31.5 inches, so it can fit where space is limited

Best For: Housing network equipment outside the protection of a climate-controlled data center.

Price: $4,249.95

Contact: (877) 877-2269 | www.blackbox.com

Black Box 42U ClimateCab NEMA 12 Server Cabinet

The Black Box 42U ClimateCab NEMA 12 Server Cabinet can accommodate larger systems that reside in areas without adequate climate controls, letting users avoid making costly infrastructure changes. These enclosures are NEMA 12 rated for use in indoor locations with falling dirt; circulating dust, lint, and debris; and dripping or splashing liquids.

- Save energy by cooling just the cabinet, not the entire room
- Includes an 8,500 BTU air-conditioning unit
- NEMA 12 rated for protection
- 40-inch depth accommodates most servers

Best For: Server installations outside the protection of a climate-controlled data center.

Price: $5,499.90

Contact: (877) 877-2269 | www.blackbox.com

Black Box ClimateCab NEMA 12 Wallmount Cabinet

Secure wallmount ClimateCab cabinets from Black Box provide a compact way to protect and cool sensitive components. Users can install the NEMA 12 rated wallmount cabinets in indoor environments where falling dirt; circulating dust, lint, and debris; and dripping or splashing liquids would otherwise cause problems for equipment.

- Compact wallmount design saves space
- Operates on a standard 115V power source
- Single- or double-hinged
- Choose from a cabinet with a fan or an 800 BTU air-conditioning unit

Best For: Remote sites that have limited space and conditions that are potentially damaging to delicate electronics.

Price: $2,695.95 for single-hinged and $2,795.95 for double-hinged

Contact: (877) 877-2269 | www.blackbox.com

MovinCool Office Pro W20

Description

The latest addition to MovinCool's portable air conditioners, the Office Pro W20 has an impressive 15,700 BTU/hr cooling capacity. Because the unit is watercooled, customers need not worry about locating the Office Pro W20 in areas without local hot air exhaust: The unit simply requires a water supply and a standard 115V outlet.

- Programmable digital controller enables weekend and after-hours cooling
- UL listed for safe operation
- Accepts a wide water supply temperature range (40 to 90 F) and a minimum water pressure of only 12 pounds per square inch
- Connects to a fire alarm system to allow emergency shutdown

Best For: Office spaces and IT equipment rooms where hot air exhaust is not available.

Price: $4,375

Contact: (800) 264-9573
www.movincool.com/dealer.php

MovinCool Office Pro 12 sold by Rackmount Solutions

The MovinCool Office Pro 12 is a portable spot-cooling air conditioner designed to lower operating temperatures of computers and networking, communications, and office equipment to maximize reliability and hardware life span. The Office Pro 12 is self-contained, portable, and features an electronic thermostat and a programmable control panel for tailored cooling when and where you need it most.

- Provides 12,000 BTU/hr of cool air maximum spot cooling
- Programmable digital controller
- Operates on a standard 115V power source
- No costly installation necessary
- Maintains ideal operating temperature for heat-sensitive electronics, down to 65 degrees Fahrenheit

Best For: Offices filled with heat-generating electronics.

Price: $3,295

Contact: (866) 207-6631 | www.rackmountsolutions.net

MovinCool Office Pro 18 sold by Rackmount Solutions

The MovinCool Office Pro 18 offers superior cooling capacity without requiring a nonstandard power source. This portable air conditioner protects sensitive data and electronic systems from loss and failure, acting as an insurance policy for your infrastructure. The Office Pro 18 features an intuitive control panel that lets users designate when the unit operates.

- Provides 16,800 BTU/hr of cool air maximum spot cooling
- Operates on a standard 115V power source
- Programmable controls enable weekend and after-hours cooling
- No costly installation necessary
- UL Listed for safe operation

Best For: Heat-sensitive office and data systems.

Price: $3,655

Contact: (866) 207-6631 | www.rackmountsolutions.net

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

MovinCool CM12 & CM25

The MovinCool CM12 and CM25 are ceiling-mounted air conditioners that are just 15.5 inches (CM12) and 20 inches (CM25) tall, making them compact enough to fit above a drop ceiling for spot cooling space-limited installations and server rooms. The units free up valuable floor space and feature built-in flanges and mounting brackets. The CM25 features a wall-mounted electronic controller that lets users monitor and troubleshoot problems.

- The CM12 provides 10,500 BTU/hr of cool air at 80 degrees Fahrenheit at 50% RH and operates on a standard 115V power source
- The CM25 provides 25,000 BTU/hr of cool air at 80 F at 50% RH and operates on a 208/230V power source
- Can fit into tight ceiling spaces, freeing up floor space

Best For: Space-limited equipment rooms and cramped server and telecom closets.

Price: $2,895 (CM12), $6,995 (CM25)

Contact: (800) 264-9573
www.movincool.com/dealer.php

MovinCool CMW30

The MovinCool CMW30 water-cooled model is ideal for applications where an air-cooled unit cannot be used because there is no available space for hot exhaust air. The CMW30 comes standard with wall-mount controller that offers advanced communications, monitoring, self-diagnostic, and troubleshooting capabilities. It can fit into virtually any drop-ceiling space and doesn't require refrigerant connections or outside condensing units.

- 29,400 BTU/h total cooling capacity
- High sensible cooling—ideal for server rooms
- Environmentally friendly design—7 IEER, R-410A refrigerant, and RoHS compliant
- Maximum sound level of only 55 dB(A)—5 decibels lower than a normal conversation

Best For: Server rooms and other applications with dense heat loads.

Price: $7,495

Contact: (800) 264-9573
www.movincool.com/dealer.php

MovinCool Office Pro 24

Computers, networks, communications and office equipment will shut down when the temperature rises, crippling daily operations. By bringing spot air conditioning to just the area or room that needs it, the Office Pro 24 saves money while protecting your company's investment in equipment and customers. Self-contained and portable, the Office Pro 24 requires no costly installation—simply roll it in, plug it in and turn it on.

- 24,000 BTU/hr of maximum spot cooling to just the room that needs it
- Programmable digital controller operates automatically weekends or after hours
- Operates on 220V power
- Provides cooling down to 65 F

Best For: Offices with heat-generating electronics.

Price: $4,885

Contact: (800) 264-9573
www.movincool.com/dealer.php

MovinCool Office Pro 36 sold by Rackmount Solutions

The MovinCool Office Pro 36 delivers 36,000 BTU/hr of spot cooling for sensitive equipment. The portable, self-contained air conditioner requires no costly installation and features an intuitive control panel that lets users program the unit to operate after hours or on the weekend.

- Provides 36,000 ETL-verified BTU/hr of cool air maximum spot cooling
- Operates on a 208/230V power source
- Features an AFCI plug for added safety against electrical arcing
- Supports plug-and-play condensate pump
- Easy-to-use programmable controls
- Self-contained, portable, and easy to set up and operate

Best For: Servers, routers, telecommunications, and other heat-sensitive equipment.

Price: $6,980

Contact: (866) 207-6631 | www.rackmountsolutions.net

MovinCool Office Pro 60 sold by Rackmount Solutions

The MovinCool Office Pro 60 delivers up to 60,000 BTU/hr of cooling capacity. This portable air conditioner is designed to manage temperatures for computer networks, communications equipment, and office electronics. The self-contained Office Pro 60 is easy to install—just position the wheeled unit, plug it in, and turn it on.

- Programmable digital controller enables weekend and after-hours cooling
- Operates on a 220V power source
- Provides cooling in the low 60s to maximize the life span of heat-sensitive electronics
- Condensation pump included for uninterrupted operation
- UL Listed for safe operation

Best For: Large office spaces and computer rooms filled with heat-sensitive electronics.

Price: $9,995

Contact: (866) 207-6631 | www.rackmountsolutions.net

MovinCool Office Pro 63 sold by Rackmount Solutions

Like its sibling the Office Pro 60, the MovinCool Office Pro 63 delivers up to 60,000 BTU/hr of cooling capacity and is ideally suited for the demands of large office spaces and heat-sensitive electronics installations. This portable air conditioner is self-contained and operates on 460V power for as little as 15 cents per hour.

- Programmable digital controller enables weekend and after-hours cooling
- Provides cooling in the low 60s to maximize the life span of heat-sensitive electronics
- Condensation pump included for uninterrupted operation
- UL Listed for safe operation

Best For: Large office spaces and computer rooms filled with heat-sensitive electronics.

Price: $12,495

Contact: (866) 207-6631 | www.rackmountsolutions.net

HOW TO

Find A Data Destruction Service

What To Do With Your Used Equipment

New laws concerning the end-of-life for data storage products in data centers have created a big need for qualified data destruction services. If you don't have a plan concerning what you'll do with old hard drives, tape drives, and other storage devices, it's a good idea to find a data destruction service that can take care of your data removal needs within the standards of federal, state, and local laws that your data center will be held up to. "Besides long-standing federal legislation, such as Sarbanes-Oxley, FACTA and HIPAA, there are now at least 46 state and territorial laws that regulate the management of private and electronic data," says Morris Scott, president of DMD Systems Recovery (www.dmdsystems.com).

Why Data Destruction Services?

Qualified vendor and IT asset disposal vendors will assist your company and take over the responsibility for certification and compliance. "The safeguarding of company or customer data cannot be overemphasized. Serious fines exist for companies if data shows up outside the organization. A campaign to offset damage caused by a data security incident can be catastrophic to companies, as well as the organization's reputation," says Scott. Just a few of the current data compliance standards (in addition to those mentioned above) include the DoD (Department of Defense), NSA (National Security Agency), and NIST (National Institute of Standards and Technology), among others. Most data destruction services also provide you with nondisclosure, confidentiality agreements so you can ensure that your data will be securely dealt with.

Another benefit of a data destruction service is that it can provide you with a variety of options for handling your various types of storage media. For example, let's say that you want to shred a bunch of old tape drives, CDs, and mobile phones, but you want to merely wipe the data off old hard drives so that they can be reused in other parts of your data center or donated to worthy causes. Most data destruction services offer you a combination of degaussing and shredding services in both onsite and offsite variations.

Benefits Of Onsite Services

With an onsite data destruction service, you'll remove the need to deal with a chain of custody documentation, which can become a legal burden and add complexity to the job. For data centers that store a lot of sensitive data and want to physically destroy the data, you'll enjoy the peace of mind that comes with watching the destruction take place. With an onsite data destruction service, the vendor will provide all the equipment necessary to handle your storage equipment.

Advantages Of Offsite Services

Some data destruction services offer more powerful shredders at their facilities than mobile shredder services can offer. So if you want absolute destruction that's beyond any type of recovery, an offsite data destruction service may be ideal. A number of offsite data destruction services also double as a reprocessing center that can remarket the parts, so you can get some return value for your used equipment. With such a transaction, reputable data destruction services will record all inventory information and data removal for your auditing and accountability needs. According to Scott, "End-of-life recycling is good for the environment; reuse is better—25 times better—and reuse means adding an extra three years of life to IT equipment." Reselling also means that schools, charities, and low-income families will benefit from your old equipment, rather than the simple destruction of the drive.

Costs

"The charges for data destruction and certification generally range from $4 to $16 per drive, depending on the process and if the drives can be reused," Scott says. If you're unsure what type of destruction would be best for you, a qualified asset disposal company should be able to help you find the most secure and efficient method.

Questions To Ask

First, Scott suggests that you ask how long the vendor has been in business and whether it has certifications—or whether it is ISO9001-certified (a set of standards that helps to ensure quality management). Other key concerns should be the type and amount of insurance the data destruction service is capable of providing, due to the sensitive nature of the data in question. Ask what types of processes it uses for the different types of storage devices you may need to wipe or destroy. Also, check with a list of the vendor's current customers to see if they are happy with the service. P

Action Plan

Morris Scott, president of DMD Systems Recovery (www.dmdsystems.com), offers a number of key aspects you'll want to consider before choosing a data destruction service.

- Choose a qualified company that can work with your specific hardware and data disposal needs over the long term.
- Come up with a plan in writing to ensure that all the processes are followed.
- Examine credentials and names of past and current clients, as well as the downstream vendors for processing metal or destroyed drives.
- If hard drives will be reused, the data destruction service must have processes in place that will comply with current laws and data regulations.
- The critical nature and liability involved with data destruction means that you should check that the vendor is properly insured and qualified.
- Transporting any sensitive data should involve a chain of custody documentation.
- Whether you select mechanical destruction or software wiping, both methods should offer an audit, including drive model, serial numbers, log files, and verification for each drive that's wiped.

Get Started

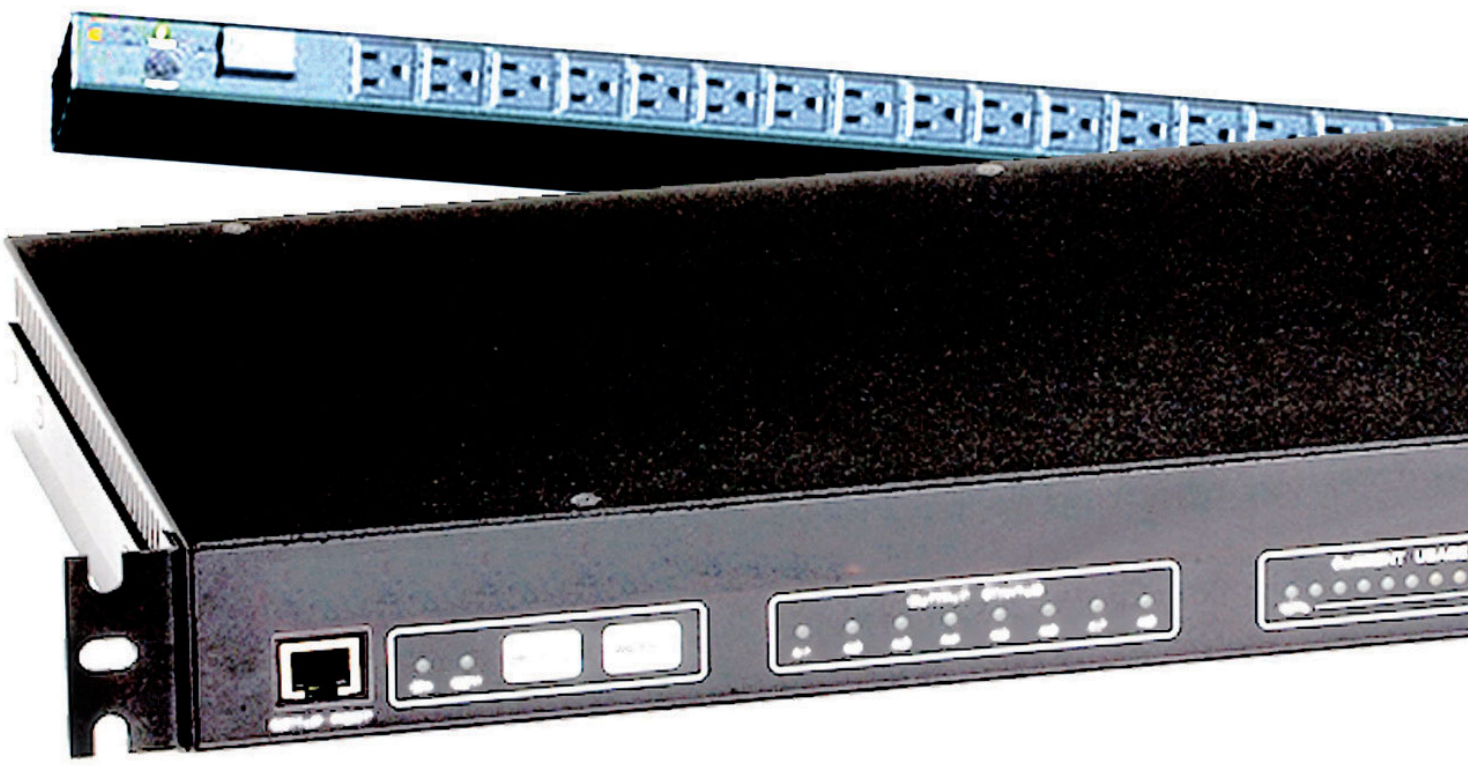
Often, it's more cost-effective to have a qualified local data destruction service handle the data destruction phase. If you opt for a data wipe of a used hard drive so that it can be reused, certified software is available that you can use onsite. Selling the used drives, once you're sure that all of the information has been securely removed, can be a good way to offset the cost of the certified data destruction software. If you'd prefer to handle the physical destruction onsite, you can find a mobile shredding company that will bring in a shredder that can handle all types of storage devices, including hard drives, backup tapes, thumb drives, and cell phones. The destroyed materials should then be securely transported to the company's processing facilities.

Top Tips

- ✔ Make sure that the data destruction service has processes and safeguards in place that will ensure your data is truly destroyed.
- ✔ Request a list of current customers and see how happy they are with the services they've been given.
- ✔ Ask about what types of insurance the service provides, in case your data would get into the wrong hands.
- ✔ Check with local companies to see if they can provide the necessary data destruction for your data center.

Key Points

- Data destruction services have become a necessity in today's data center environment.
- Your options include onsite and offsite destruction, as well as wiping (drive remains physically intact for possible reuse) and physical destruction.
- You may be able to sell your used equipment to an asset recovery service, which will help to offset the cost.



Buying Tips:

UPSes

Ultimately, the primary question IT should ask when buying UPSes is what level of protection is needed, says Brett Femrite, director of business development at Rackmount Solutions (www.rackmountsolutions.net). "A basic surge protector/suppressor will go a long way to protect your equipment from power spikes and surges, but in the case of power outages, you need to look at a UPS," he says. To that end, consider the following buying tips.

Top features to consider. Beyond a high efficiency rating (95% or greater), James Hall, marketing manager at Staco Energy Products (www.staco energy.com), says UPS systems should offer a high input power factor (greater than 99%), low input distortion (3% or less), easy installation and accessibility, and an external maintenance bypass switch. Other notable features include high-performance filtering to protect upstream power sources and dual inputs for the main and secondary emergency standby power. Hall advises to select a UPS that has sufficient capacity to handle the IT loads, adding that UPSes exceeding their capacities is one of the highest causes of data center downtime.

Capacity-wise, Femrite advises to purchase a unit that exceeds your total power requirement by 20 to 30%. "This not only ensures capacity coverage but will also allow some room for growth if/when you add additional pieces of equipment," he says. Where runtime is concerned, Femrite says, "It can be a great cost savings down the road if you factor in future expansion and buy a UPS that offers the ability to upgrade or add additional batteries if/when needed."

UPS types. The three primary UPS categories include standby, line-interactive, and online models, Femrite says, with different iterations existing within each category. Standby systems run power through surge suppression to the equipment; if there's a power outage, the UPS switches to battery backup power, reverting back to AC power when power returns. Line-interactive systems have built-in line-sensing abilities to regulate high or low voltage levels. An inverter switches on if there's a power loss, and the system switches to battery power. Online systems provide the highest protection level, Femrite says, as the inverter is online and operates continually to eliminate incoming surges and low and high voltage issues while delivering clean power to equipment.

Data center-grade features. For data center use, Hall says three-phase online double conversion (converts AC power to DC and then back to AC) systems offer the greatest value while also providing conditioned power to IT loads. "These UPS systems totally isolate the load from the primary AC line," he says. "Noise, sags, and swells never reach the load." Overall, Hall says obtaining the lowest TCO should be a primary objective. "This includes battery and other auxiliary hardware," he says. He advises to determine what the cost to acquire, operate, and maintain equipment will be over the equipment's lifetime. Additionally, key factors include high sustainability, space efficiency, ease of installation, integration with existing systems, scalability, and high reliability.

Size matters. In terms of data center-grade UPSes, Femrite cautions one size doesn't fit all. "It's more about design and configuration than type," he says. Budget, kW/MW capacity, availability requirements, and risk tolerance are other factors, as is recognizing that as the configuration gets higher on the availability/dependability scale, the associated costs also increase. "Redundancy, system efficiency, distributed architecture, maintenance, and fault tolerance (eliminating single points of failure) are all key considerations when evaluating data center-grade UPS solutions," Femrite says. Hall adds that SMEs should take transient loads into account when determining ideal UPS size.

Batteries. When factoring in batteries, Femrite says, "the solution you select should be able to notify you of any issues with battery performance or maintenance needs." Hall points out that battery life will degrade with age, even if they don't encounter lots of discharge cycles. Thus, if your minimum runtime requirements are critical, "the battery should be selected to provide some cushion so that after several years, minimum runtimes can still be achieved," Hall says. P

Buyers' Checklist

- ✔ What type of UPS system do you need?
- ✔ Is the UPS sized to properly handle the loads required?
- ✔ Are the necessary monitoring and management tools provided?
- ✔ Does the UPS offer sufficient runtime and capacity?
- ✔ Is the UPS backed by insurance or a guarantee?

Key Terms

Capacity:
The maximum amount of power a UPS can handle.

IGBT and DSP:
Short for insulate-gate bipolar transistors and digital signal processors, respectively, these components provide for true online double conversion in UPS systems.

Runtime:
The length of time a UPS will continue providing backup power in event of a power outage.

PRODUCT SPOTLIGHT

UPSes

Active Power CleanSource UPS

Description

The CleanSource UPS from Active Power is a highly reliable, energy-efficient, battery-free UPS system that uses integrated flywheel technology. CleanSource UPS is designed to protect mission-critical data center operations from both short power disturbances and complete outages. With an energy efficiency of up to 98% and more than 77 million hours of runtime in the field to date, CleanSource creates a predictable, continuous power system designed to ride through power outages to keep critical operations up and running

- Designed to reduce TCO by 60%
- Battery-free
- Space-efficient
- 75% reduction in carbon emissions
- Continuous voltage regulation

Best For: Mission-critical data centers that need highly reliable power conditioning and protection.

Emerson Network Power Liebert APM

The Liebert APM from Emerson Network Power is a row-based, modular, transformer-free, online UPS system. The addition of internal FlexPower core hardware assemblies allow for quick power capacity increases, enabling capacity or redundancy expansion in 15kW increments up to 45kW or 90kW within one cabinet. FlexPower cores can be added or replaced without powering down connected equipment.

- FlexPower cores use distributed intelligence and scalable power in a common assembly
- Allows for configuration of a redundant power and control system matching the capacity of the protected equipment
- Up to 94% efficiency in standard mode at loads of 50 to 100%
- Unity power factor (kW=kVA) provides more real power capacity without power losses
- Available in 45kW and 90kW configurations

Best For: Raised or non-raised floor applications, small to medium-sized data centers, server rooms, production areas, labs and testing facilities, and telecommunications or process controls centers.

Emerson Network Power Liebert GXT3 UPS

The Liebert online GXT3 UPS from Emerson Network Power offers a compact design that keeps your critical loads running with up to six battery-backed outlets. Engineered for PCs, network workstations, servers, network closets, large network peripherals, and VoIP, the GXT3 supports both rack and tower configurations and preserves batteries through its broad input voltage window. Additionally, the GXT3 automatically discovers and meets both 60Hz and 50Hz line input frequencies and sends out advanced UPS status alerts through both automatic and manual battery tests.

- Just 2U high
- Available in VA ratings from 500 to 3,000 in 120V or 230V
- Rack or tower configurations
- Up to six battery-backed outlets
- Up to eight minutes of battery backup at full load
- SNMP and Web-based management options
- Input circuit breakers protect against and help recover from overloads

Best For: Companies looking for a compact UPS.

GE SG Series 10-750kVA UPS

Description

GE's SG Series 10-750kVA UPS is a three-phase unit that offers maximum output performance, efficiency, and functionality with a small footprint. The UPS operates in double-conversion mode; features true continuous online VFI (voltage and frequency independent) operation with integral full-load static switch and internal maintenance bypass; and includes eBoost, which cuts energy use without sacrificing reliability.

- Includes full 24/7 service team support for preventive and corrective services, training, and application expertise
- 99% operating efficiency
- Fused surge protection
- Front access makes maintenance and service simpler
- Superior battery management enhances battery lifetime
- Integrated intelligent energy management
- Redundant parallel architecture

Best For: Maximum protection for mission-critical processes.

Rackmount Solutions Minuteman Endeavor UPS Battery Backup

Rackmount Solutions' Minuteman Endeavor series of UPS battery backup products delivers an online uninterruptible power supply in a form factor that can be rack-mounted, placed on the floor as a tower, or installed in a cabinet. With a power factor of 0.8 watts and available with capacities up to 3kVA, the Minuteman Endeavor series features hot-swappable batteries, rapid battery recharging, and extended runtime using external battery packs, and it's also RoHS-compliant. Outlet receptacle control for noncritical load shedding is included. The Endeavor series also includes Minuteman SentryPlus monitoring and control software and a front panel display with status indications.

- Simultaneous RS-232, USB, and SNMP communications
- Three-year warranty with up to $200,000 equipment damage insurance
- Manual and automatic testing
- Harmonic distortion control
- Dedicated emergency power off port

Best For: Any situation where form factor flexibility is needed.

Price: Starts at $546.75

Contact: (866) 207-6631 | www.rackmountsolutions.net

Rackmount Solutions Minuteman EnterprisePlus UPS Battery Backup

The Minuteman EnterprisePlus UPS Battery Backup is a family of line-interactive UPSes from Rackmount Solutions featuring a flexible form factor that can be mounted on the floor, in a crack, or in a cabinet. Other features include a 0.8 power factor; load shedding to extend the time it can support critical applications by rationing power from inactive devices; and simultaneous DB-9, USB, and SNMP communications.

- Independent battery bypass provides voltage regulation even when batteries are weak or dead
- Independent battery pack chargers
- Virtually unlimited battery pack support
- Minuteman SentryPlus monitoring and control software
- Front panel display
- Dedicated emergency power-off port

Best For: Any situation where form factor flexibility is needed.

Price: Starts at $390.15

Contact: (866) 207-6631 | www.rackmountsolutions.net

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Emerson Network Power Liebert NXL

The Liebert NXL combines reliable power protection and advanced technology into three-phase UPS systems for high-power applications. The Liebert NXL provides excellent dynamic performance, can handle an influx of adverse conditions, and provides computer-grade output to critical loads. Available in single- or multi-module systems in capacities of 250kVA through 1,100kVA at 480V, 575V, and 600V at 60Hz, the multi-module systems are available in 1+N (Distributed Static Switch) and N+1 (Centralized Static Switch) configurations.

- Add matching battery cabinets and a maintenance bypass cabinet for complete power solution
- Robust design enables operation at 100% load under such conditions as clogged air filters, high ambient temperature, fan failure, and low or high line conditions
- Battery cabinets available with factory-integrated Alber BDSi battery monitoring
- Lower TCO addressed by up to 94% efficiency in full isolation mode and up to 99% in high-efficiency mode.

Best For: Enterprise data centers, industrial process equipment, laboratories, or any application requiring high levels of power availability and computer-grade power quality.

GE GT Series

The transformerless GT Series (5 to 10kVA) offers a true online VFI (voltage and frequency independent), double-conversion range and comes in a tower and rack convertible design. The GT Series can be expanded to create up to 30kVA in a parallel system. Batteries are hot-swappable, and extended runtimes are available with matching battery cabinets. The GT Series can also handle cold starts and programmable load shutdowns with a remote power switch for separate sites. Multiple PDU options and backfeed protection are available.

- Single-phase output voltages of 120/208V
- 80 to 138V input voltage window
- Frequency conversion 60/50Hz
- SNMP can be added for network communication
- Prevents deep battery discharge at low loads

Best For: Data centers that need a flexible UPS option.

GE LP33 Series

The Digital Energy LP33 Series UPS (10 to 100kVA) offers various power protection features for mission-critical applications, including GE's Redundant Parallel Architecture technology that parallels up to four units. Operating in double-conversion mode, the LP33 Series offers true online VFI (voltage and frequency independent) operation and high-frequency Pulse Width Modulation IGBT digital control techniques for a quicker transient response and lower output distortion. Additionally, a transformerless design makes the UPS compact, lightweight, and quiet.

- Greater than 0.98 input power factor and less than 8% input THD distortion
- Up to 98% operating efficiency in ECO mode
- 54 to 66Hz input frequency and 208V
- LAN, modem, SNMP, RS-232, Modbus RTU, programmable alarm contacts, and TCP/IP connections provide for remote monitoring and management
- SBM (Superior Battery Management) technology helps to preserve battery life

Best For: Companies searching for a transformerless and energy-efficient three-phase solution.

Staco Energy Products FirstLine P 65-125kVA 480VAC UPS

With the addition of the FirstLine P 65kVA 480VAC UPS to Staco Energy Products' 80-125kVA UPS lineup, the company now offers three-phase UPSes for 65-125kVA applications. Up to 98% efficient, the devices use IGBT (insulated-gate bipolar transistor) and DSP (digital signal processor) control to produce true online double conversion with up to eight units in parallel for expandability and redundancy. FirstLine P boasts high efficiency and an impressive power factor, which translate into lower utility costs and a greener footprint. The units protect upstream power supply sources from harmonics and reactive power generated by the load.

- Dual Bus and Dynamic Dual Bus System configurations
- Hot-swappable
- Front, top, or bottom access for placing units against a wall
- Two-year onsite warranty
- Nationwide Service Program

Best For: Computer room and data center applications where affordability, efficiency, reliability, and flexibility are essential.

Contact: (866) 261-1191 | www.stacoenergy.com

Staco Energy Products FirstLine PL 10-100kVA 208VAC UPS

Staco Energy Products FirstLine PL UPS is a parallelable three-phase UPS meant for 10-100kVA applications. Up to four FirstLine PL units can be run in parallel, providing redundancy with no additional hardware. The units have efficiencies of up to 95% and feature a compact transformerless design that allows for internal batteries up to 30kVA. IGBT and digital signal processor control provides true online, double-conversion technology, while a user-friendly display boasts alarms and LED indicators for bypass, main line, battery powering the load, load on bypass, and normal output.

- Dynamic Dual Bus System configuration
- Space-efficient
- Matching extended battery and options cabinets
- Two-year onsite warranty
- Nationwide Service Program

Best For: Network closets, computer rooms, and small data center applications requiring a high level of available conditioned power.

Contact: (866) 261-1191 | www.stacoenergy.com

Staco Energy Products Unistar P Series 6-10kVA Rack & Tower UPS

Staco Energy Products UniStar P is an online, single-phase parallel redundant UPS available in 6kVA Rack/Universal and 6kVA, 8kVA, and 10kVA Tower models. The products are power- and runtime-scalable, up to 98% efficient, can be configured with up to four units in parallel, and are DSP-controlled. The units feature an LCD/LED mimic panel and easy-to-set user personalization, and they offer continuous power conditioning and smooth uninterrupted switching from utility to battery, handling wide fluctuations without going to battery. The units also have a very low rate of added harmonics, which protects system integrity.

- High input power factor and low current THD
- Flexible Rack/Universal and Tower models
- RS-232 port and optional communications slots
- Hot-swappable battery and matching external battery pack
- Industry-leading three-year warranty
- Nationwide Service Program

Best For: Network closets and small computer rooms requiring a high level of continuous available conditioned power.

Contact: (866) 261-1191 | www.stacoenergy.com

SIX QUICK TIPS

Videoconferencing On A Budget

Meet Your Collaboration Needs Without Breaking The Bank

Video telephony has made significant strides in the past seven decades. From closed-circuit coax cable connections to UHF videoconferencing on NASA manned flights to high-definition VoIP in the 1990s, videoconferencing is now a viable tool that's available to enterprises of all sizes as a high-end business investment or a low-cost communication tool.

Practically every company is looking to cut costs here and there, and utilizing videoconferencing is one way businesses can easily trim the fat. We talked to some industry experts about the budget-friendly videoconferencing options that you should keep in mind, whether you're starting from scratch or looking for alternatives to your current platform.

✔ Enhance What You Already Have

Before you take any other steps, stop and take inventory of the video telephony assets you may already have. For instance, any employees that use video calling software in their PCs for in-house communication could repurpose it for international meetings from their desks. In addition, this is a scenario in which the company can benefit as whole from the consumerization of IT by approaching tablet owners about using their devices for mobile videoconferencing. All this is only possible, though, if your network can support an influx of video traffic.

"Connecting with existing desktops, laptops, and networks is the most cost-effective way for SMBs to harness the power of videoconferencing," says Garry Orsolini, director of technology for global virtual delivery and infrastructure education services at HP (www.hp.com). "By leveraging built-in video cameras or low-cost USB Web cams, small businesses can add video capabilities to their communications quickly and easily. By using bandwidth-friendly solutions that coexist with existing networks, SMBs can save on video communications costs."

The supplementary lesson here, however, is that your conference quality may diminish if you're using out-of-date headsets or non-HD cameras. Dedicate a portion of your budget to these items, so your employees can be confident in front of the lens.

✔ Determine The Who & The What

Though this may be an obvious bullet point on your checklist, there's no substitute for assessing who will actually use videoconferencing—whether select participants or the entire enterprise—and what they're going to do with it.

Bernard Moon, co-founder and CEO of Vidquik (www.vidquik.com), says there are several factors to weigh. "When deciding what videoconferencing solution to use, small businesses should consider what their conferencing needs are—i.e. number of participants, types of meetings and presentations, etc.," Moon says. "In general, small businesses will not have intensive videoconferencing needs, so a hosted (vs. in-house, hardware-based) solution will be the best."

What are the advantages of hosted solutions? Easy setup and no additional hardware outside of inexpensive audio and video peripherals that are incorporated into computing products already, Moon says. "The cost-effective videoconferencing solutions that are on the market and available to SMB owners today are not all that different from bigger-budget options, in terms of features and sophistication," he says.

✔ Slash Your Travel Costs

Because end users are no longer a stationary entity, collectively speaking, businesses rely a lot more on mobile technologies or services that can reduce travel costs. But there are other reasons your company should be video-ready. According to Brogan Taylor, vice president of business and subscription sales at ooVoo (www.oovoo.com), "Using video to save on travel is obvious, but savvy SMBs are using video in a meaningful way to drive culture, increase revenue-generating activities, and enhance daily operations at their companies."

This switch from an ear-to-ear connection to the eye-to-eye conversation is more than just a hardware conversion, too. "For salespeople, [videoconferencing] helps build faster rapport and credibility with prospects, which shortens sales cycles and increases deal size," Taylor says. "Easy-to-use video enables recruiters to find, interview, and hire top talent faster. Operationally, spontaneous video chat enables leaders and teams to meet face-to-face daily, which accelerates time to market on projects ranging from product development to marketing campaigns."

✔ Don't Miscalculate Your Fundamental Needs

It's important to know what your basic needs are in a videoconferencing solution. "Services that are loaded with unnecessary features are often more complicated to set up and use—this takes time away from the core function of your conferencing. The simpler it is to use, the more you will use it, and the more value you will get out of it," Moon says. "We recommend SMB owners carefully evaluate their needs and do a trial before committing to a particular service. Many will find that having their basic needs met efficiently and hassle-free is much more valuable than an extra feature they may never use."

As an example, a basic multi-seat videoconferencing plan might include multi-party video calling, application sharing, desktop sharing, file transferring, encryption, recording time, text chat, HD video, and customer support. Other solutions provide reporting tools, security settings, call recording, and YouTube uploading.

Most Common-Sense Tip:

✔ Use Videoconferencing Company-Wide

Videoconferences aren't just for C-level execs. A hosted platform lets anyone with the appropriate hardware and a Web browser connect and brainstorm together. "Low-cost videoconferencing is used by sales teams to reach more people—both employees and customers—and conduct business, while cutting travel costs and time. It also allows meetings and partnerships that would otherwise not be possible due to cost and timing constraints," says Bernard Moon, co-founder and CEO of Vidquik (www.vidquik.com). "The real-time collaboration capabilities of most videoconferencing software also allow for geographically dispersed offices, personnel, and project management, as well as recurring business meetings, sales presentations, and training—useful to both advertising and human resource departments."

Smartest Tip:

✔ Optimize Your Screen Real Estate

If you frequently attend videoconferencing sessions with a large number of attendees, be sure to make space for everyone in the conversation—literally. Garry Orsolini, director of technology for global virtual delivery and infrastructure education services at HP (www.hp.com), says you can extend the desktop or laptop display to one or multiple large displays or digital projectors, which makes it possible for parties to engage in virtual global sessions.

"Some solutions auto-detect the presence of dual displays and will place the video feeds on one display and the collaborative content—whiteboard, application sharing, chat, Q&A , etc.—on the second display," Orsolini says. "The bigger the displays, the easier it is to accommodate larger teams and visualize more active content."

BONUS TIPS:

✔ Pause your video.

"Pause your video camera/stream when not actively engaged in the conversation. This saves network bandwidth," says Garry Orsolini director of technology for global virtual delivery and infrastructure education services at HP (www.hp.com). "Just remember to look into the camera and set the perfect pose before you freeze your image."

✔ Try it before you buy it.

A number of videoconferencing platforms let you sign up for a free trial before you commit to a monthly subscription.

SIX QUICK TIPS

Prepare For The BYOD Invasion

Simple Tips For Getting Your Network Ready For Employee-Owned Devices

Where developing a strategy for employees to bring their own mobile devices into the workplace is concerned, arguably no word holds as much meaning as "impact." After all, IT departments facing down an invasion of mobile devices coming from outside the company must deal with the impact those devices will have on network resources, security, budgets, workloads, support responsibilities, and even on how employees view IT. Consider the following when preparing for your company's BYOD invasion.

✔ Commit To The Cause

Although employees bringing self-owned devices to work can produce many complexities, view the move as an opportunity and not a burden. According to Ojas Rege, vice president of products and marketing at MobileIron (www.mobileiron.com), "The point of a BYOD program is increasing productivity and enablement." Typically, he says, employees allowed to choose their preferred technology will be more productive.

"This is a great opportunity for IT to provide a better, richer set of technology to users, and the nice thing is [IT] has a little advanced thought about how the security policies are going to work, and they've thought that through with the users," Rege says. "If they implement it properly, they end up with a situation where the user is happy and IT is paying less, which is not a situation that you have that frequently."

Not committing to the user experience is the worst mindset IT can take, he says. For example, letting employees choose a smartphone or tablet they want to use but locking it down so tightly they can't effectively use it creates a BYOD program in name only, Rege says. Employees are generally fine with knowing that IT may have to wipe work-related data if needed, he says, but they may not wish to enroll in a BYOD program if they're not allowed to use their devices for personal use as they did prior to implementing a BYOD program.

✔ Be Transparent

One key to a good BYOD program is providing employees with the exact terms and conditions upfront. "Spell it out for employees," says Christian Kane, infrastructure and operations researcher at Forrester Research. "Have a document that addresses not only how employees should use the devices for work purposes but also addresses how IT will support these devices. Having self-service portals and clear, easily accessible information on what to do in situations is extremely important."

Forrester's "Fifteen Mobile Policy Best Practices" guideline states that employees must understand and accept a BYOD policy before they're granted access to company resources. Relatedly, employees must know precisely what will occur if they fail to comply with policy. Rege says the contract between users and IT should be clear and indicate what types of information IT needs to track or actions IT might need to take to preserve security. "It can't be hidden," he says.

✔ Enable Tiered Access

Arguably, most important to a BYOD program is having well-implemented security policies, which tend to involve network access, Rege says. Here, companies must manage incoming and outgoing paths, with email being the most common network-related example, he says. "If a device falls out of compliance—say, you jailbreak an iPad—immediately you want the flow of data blocked to that device," Rege says.

"VPN and access control measures exist today but are still evolving to deal with more mobile devices and devices which are not owned by the company," Kane says. "That and the introduction of more devices to the network means things like load balancing will become even more important." Kane explains that many companies experiment with tiered access, which essentially means setting baselines for access (access only to email, calendar, and contacts, for example) and security (enabling PIN requirements and remote lock and wipe, for example). Companies are also looking into forming new workforce segments based on technology/tool requirements for employee jobs and provisioning mobile policy and access based on employee needs, he says. Another concept is developing an enterprise application store through which IT can manage a mobile application portfolio and provision apps based on employee roles, devices/platforms, and security state.

When setting security and access levels, Rege says, build a trust model within the BYOD program. "Identify what different levels of trust you associate with different devices and then set access based on that," he says. "[This] requires the security team to get a bit more granular about what kind of access they're going to provide based on how trustworthy that access is."

✔ Engage Employees

Successful BYOD programs bring together all stakeholders, including employees, for input before and after policy is created. "IT doesn't have the control it used to," including over mobile OSes, Rege says. The best practice, he says, is surveying employees to understand what devices they use or want to use, how they use them, and how they want to use them. After implementing a policy, constant follow-up communication is a must.

"Ultimately we're seeing the need for mobile policies to be continuously updated, tweaked, and audited because of the incredible pace in which mobile technology and requirements are evolving," Kane says. "Continue to engage employees about their technology usage and technology preferences. Use this information to stay ahead of the curve and continuously audit and revamp your mobile policy. Fighting consumerization will not work; instead, it's about finding ways to embrace it as much as possible while still maintaining proper management and security control over corporate data."

Rege says a typical security scenario might involve IT maintaining a blacklist of applications users can't download. If a user does, she must delete the app or access to, say, company email, is blocked until the device achieves a secure state again. "That is a very well-balanced partnership with users," Rege says. P

Most Practical Tip:

✔ Be Ready For A Possible Increase In Support Calls

According to experts, support demands could really go either way depending on how comfortable your workforce is with mobile device technology. Christian Kane, infrastructure and operations researcher at Forrester Research, says that as more employees seek work access for their devices, "we'll start to see more support capacity issues for IT," especially for programs that support many devices on many different platforms. Multiply support for each mobile app potentially for each mobile platform, he says, "and the current support structure really becomes unsustainable. So workload but also skillset definitely comes into play for IT." Conversely, Ojas Rege, vice president of products and marketing at MobileIron (www.mobileiron.com), says that an "IT-ization" of users is occurring, meaning users are more technically adept and willing to be a first line of support. Further, employees are typically more careful of how they use their own device, tend to lose them less often, and take better physical care of them.

Best Recruiting Tip:

✔ Improve Company Culture

MobileIron's Ojas Rege says establishing a BYOD program can be "as much an HR initiative as an IT initiative" due to the benefits enterprises can see when recruiting a new generation of employees that favorably views a company that enables the use of modern, employee-owned devices vs. second-generation smartphones or locked-down laptops.

BONUS TIPS:

✔ Boost IT's worth.

By showing employees that IT is on top of technology and user-focused, forging a BYOD program provides IT an opportunity to "gain a lot of credibility and customer satisfaction with their user community, something that IT doesn't sometimes think about at the beginning stages of this," says Ojas Rege, vice president of products and marketing at MobileIron (www.mobileiron.com). Forrester researcher Christian Kane adds that by offloading such responsibilities as procurement and repair of employee-owned devices to carriers, "IT can focus on delivering the right technology to employees and be seen as a business enabler rather than a roadblock."

✔ Designate a guru.

Rege advises that because consumer mobile devices are always changing, IT should assign an expert to follow new models and OSes. Having a "device guru" who understands what Android devices or OS upgrades are in the works enables IT to set security policies proactively, learn if a certain class of devices won't have encryption, etc.

PRODUCT SPOTLIGHT

Data Center/IT Training

Training Center

Global Knowledge

Description

Global Knowledge is the worldwide leader in IT and business skills training. The company delivers courses via training centers, private facilities, and the Internet, letting customers choose when, where, and how they want to receive training programs and learning services. Global Knowledge specializes in high-quality, hands-on data center training courses that are delivered by accomplished cross-domain experts. Instructors are certified Cisco Systems and VMware Certified instructors with real-world experience. The company's broad-based data center curriculum includes VMware, Cisco, Sun, IBM, Red Hat, and Microsoft courses as well as other subjects.

- Learn from experienced instructors and award-winning curriculum
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- Select from more than 1,200 courses

Best For: IT training for the individual or for the enterprise organization that requires skills development or certification.

NetCom Information Technology

NetCom Information Technology, headquartered in New York, has training centers located in 18 states across the country and offers training solutions for more than 1,000 technical, application, and project management courses to Fortune 500 companies, businesses, government agencies, and individuals. NetCom's subject matter experts provide authorized hands-on education in the latest technologies from leading vendors, including (ISC)2, Adobe, Autodesk, Check Point, Cisco, Citrix, CIW, CompTIA, EC-Council, Microsoft, Novell, Oracle, PMI, and others. NetCom is an authorized testing center for Sylvan Prometric, VUE, and Certiport. The company is also a New York and New Jersey Workforce Training Provider and a licensed school registered with the New York State Education Department.

- Provides world-class training and certification preparation for the most in-demand computer technologies
- Offers authorized career training classes in Microsoft, Cisco, Adobe, PMI, Autodesk, Oracle, Novell, CompTIA, and more
- All courses and boot camps are hands-on, led by certified instructors using the latest equipment
- On average, NetCom instructors have 11 or more years of experience in the subjects they teach
- Curriculum options aimed at helping students become Web site developers, database administrators, computer programmers, graphic designers, security specialists, and project managers
- In the last decade, NetCom has delivered training to thousands of individuals and corporations

Best For: IT, security, and project management training for beginners and also for experienced staff looking to enhance their careers or enter a new market.

Training Center

TechSkills

Description

TechSkills is a nationally recognized leader in education delivery, specializing in skills and certification training for careers in information technology, healthcare services, and business. TechSkills' teaching methodology combines elements of traditional instructor-led education, the latest online learning tools, and extensive hands-on skill-building to create an effective and efficient learning process. Students control what they learn, when they learn, how they learn, and how rapidly they progress. Based in Austin, Texas, TechSkills operates more than 25 campuses in 16 states. TechSkills campuses are licensed in each state in which they operate, and select TechSkills campuses are nationally accredited by the Accrediting Council for Continuing Education & Training.

- Offers personalized programs that include morning, afternoon, evening, and weekend classes; online and on-campus study options; intensive small group "microlab" training sessions; and the latest online learning tools
- Course customization lets you skip what you already know and progress at your optimal speed
- Hundreds of hands-on lab activities to provide real-world experience
- Online access 24/7 lets you work through on-the-job scenarios in real time
- More than 90% of TechSkills' students pass their industry certification tests on their first attempt; if you don't pass your certification test the first time, TechSkills will pay for one retake for every successfully completed course
- Job placement assistance that includes personal coaching, help with résumés, and career development workshops
- Multiple programs, including Microsoft, Cisco, Oracle, and IT security certification

Best For: Students seeking certification in IT, technical, or business areas.

United Training

Actually a consortium of independently owned training centers, United Training concentrates on helping its members provide high-quality IT training from regional providers. Since 2000, the company has been delivering training nationally and developing strategic relationships with manufacturers and vendors of IT-related products and services. The company's goal is to provide quality training throughout North America on any IT training product, anywhere, and at any time. United Training offers in-class, private, and mobile classroom training options, and many members offer Web-based virtual classrooms. United Training regularly offers free Webcasts. In addition to the typical communication channels, members and students can comment on and communicate with the company via Twitter and Facebook.

- Microsoft Gold Certified Partner
- Courses offered in most states and in Canada
- Hundreds of courses offered in more than 50 technology areas, including Web development, programming, CRM, SQL Server, and Exchange
- Many courses offered for Cisco, MCSA/MCSE, and other certifications

Best For: IT staff seeking basic or advanced certification in multiple areas and employees needing introductory coursework in popular business applications.

Centers

New Horizons
Computer Learning Centers

With more than 320 locations in 70 countries, New Horizons is the world's largest independent IT training company. For the past 29 years, the company has delivered a full range of IT training and certification and business skills education. The company has helped more than 25 million students and offers courses in hundreds of locations around the world.

- 320 New Horizons locations worldwide, specializing in Microsoft and Cisco products and technology
- Cisco's North American Learning Partner of the Year for 2009-2010
- Microsoft's largest worldwide training partner
- Flexible training: mentored learning, instructor-led classroom, and online
- The only provider with Mentored Learning capability that gives you all the benefits of an instructor while learning at your own pace
- More than 90 authorized Cisco locations in the United States
- Local centers, instructors, and customer service teams that tailor learning paths specifically to your business/career goals

Best For: New and experienced IT staff, including experienced Microsoft technical staff looking to cross over into Cisco routing, switching, and voice products, and those seeking additional ways to increase their marketability. Also ideal for help desk professionals looking to improve their skills and enhance their career options.

Contact: (714) 940-8000 | www.newhorizons.com

Unitek Education

Unitek Education is the only IT training company in the world to have won Learning Partner of the Year awards from five different IT market leaders. Microsoft, Citrix, CompTIA, and Red Hat have all acknowledged the company's relentless drive for training excellence. Unitek is a learning partner for Microsoft, Citrix, Cisco, CompTIA, Red Hat, and NetApp and is the only company in the United States to have achieved the dual status of Microsoft Gold Partner for Learning Solutions and Cisco Learning Partner. The company provides multiple learning modalities, including the Smart classroom, which enables students to experience all the benefits of a live instructor-led class from the comfort of their homes or offices. Unitek's accelerated "boot camps" are aimed at teaching specific skills, tools, or technologies in a short period of time in a zero-distraction environment. Unitek is an authorized Prometric testing center, operating multiple exam sites in Fremont and Sacramento, Calif.

- Courses offered in multiple locations as well as online
- Onsite training available
- Courses offered for both end users and corporate administrators

Best For: IT staff seeking basic or advanced certification in any of several areas: Microsoft, Cisco, NetApp, Red Hat, Citrix, Linux, and others.

Attention Data Center Professionals

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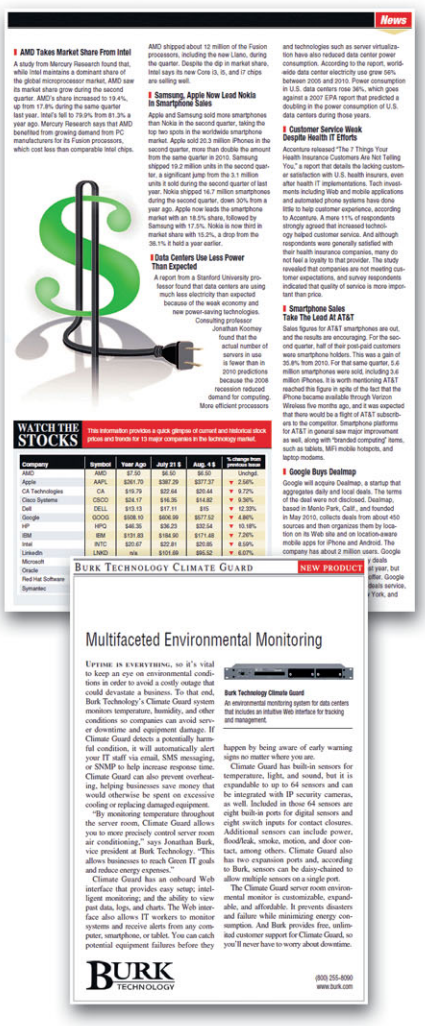

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PROCESSOR

Reducing Noise In The Data Center

Keeping Noise In Check Can Prevent Health Hazards & Loss Of Productivity

Power, cooling, and space generally top the list of data center concerns. But as those conditions have become more critical due to data center density, another problem is creeping in: noise.

Though data center noise levels are not as high as those at a mine or a warehouse, servers do generate from 50 to 70dB (decibels) of noise, and the more equipment you pack into a data center, the less space there is to dissipate the sound of all those fans and all that cooling airflow. "The more servers added to a data center, the more cooling required," says Andreas Zoll, director of data center engineering and product development for i/o Data Centers (www.iodatacenters.com). "The more cooling those servers require, the greater the noise generated with high-speed fans."

More and more large enterprises with expansive data centers are starting to look into possibilities for bringing the noise down. "Even when noise levels aren't as high as other industries, noise does have an impact on communication [and] stress, and there have even been some reports that connect noise with heart disease," says David Cannington, chief marketing officer at hearing protection company Sensear (www.sensear.com).

You may not be to that point yet, but if you're starting to notice a harder time with conversation or even co-workers who don't seem to hear as well as they used to, you may have a noise problem on your hands.

Pinpoint The Culprits

Just as hot-running equipment can create hot spots, your noise problem may be coming from only one corner of the data center. Servers are the biggest culprit, but noise can come from everywhere: computers, storage and networking fans, air handlers, CRACs, even pumps and switch gear. So the best way to know how to handle your noise problem is to know where it's coming from the most.

Key Points

- Consider your noise levels as you consider your power efficiency and other variables.
- At levels of 85dB and up, companies must act to protect their employees' hearing, which can include hearing protection and regular hearing testing.
- Updates to your equipment may help to reduce noise, including firmware updates and replacing old equipment that is noisier and less energy-efficient.

Brett Femrite, sales manager at Rackmount Solutions (www.rackmountsolutions.net), suggests conducting a mock tour of your data center, with one person leading the group and talking to the members the whole time. "As you walk around the data center, note the areas where the noise seems louder than others, and where it is more difficult to hear the tour guide," Femrite says.

Once problem areas have been identified, it's easy enough to get ahold of a sound meter and get some pinpointed data on the actual noise levels in different parts of your data center. "There are a number of iPhone and Android sound pressure meters that will give a quick, cheap reading in less than five minutes, including download time, for any point in the data center," says Mark Monroe, executive director of The Green Grid, a consortium for resource-efficient data center usage. "These apps are not as accurate as a commercial SPL meter, but can be good enough for a quick test."

The Occupational Safety and Health Administration has established noise thresholds that dictate what a company has to do to protect its employees' hearing. (See the "Noise Levels According To OSHA" sidebar for more information.) Many data centers fall short of those specified levels, but as yours gets louder, it's worth keeping an eye on it—after all, it's a lot cheaper to bring the noise down than it is to start complying with regulations. "A rack of servers at 66dB each can approach the level requiring ear protection for long-term exposure," Monroe says.

Turn Down The Volume

So how do you bring down the noise in your data center? Fortunately, there's more than one option available to you. If you have a particular piece of equipment that's especially loud, focus on that one, and consider both the containment and the update option. Is it an older server that could be fast-tracked for an equipment refresh? Older equipment may both run less efficiently and make more noise because the fan is older, while newer equipment may bring down both your need for cooling and your noise level naturally.

If it isn't older, there still may be options that your vendor can help you with. "There have been incidents where server vendors had to update firmware on their devices to slow—and quiet—fans as sound pressure levels began to approach or exceed OSHA-allowable levels," Monroe says.

When you've exhausted updates, then it may be time to consider containment. Just as troublesome pieces of equipment can be enclosed or moved to a cabinet for reasons of cooling, cabinets are available for sound containment, as well. "There are some very effective sound-dampening server cabinets and enclosures available," Femrite says. "Many also have very advanced airflow and heat dissipation characteristics. Implementing sound-dampening cabinets in the areas where the sound level is at its highest can make drastic differences in the overall noise level in the data center."

You can also reduce the noise by reducing the need for noise. For example, the less the fans blow, the less noise there is. "Lowering the inlet temperature of the air going into the systems can reduce the amount of fan power required, thus reducing noise," Monroe says.

In fact, you can design or retrofit so that there are no fans at all. Monroe explains that Facebook's data center in Prineville, Ore., doesn't use server fans; instead, it uses much more efficient—and therefore much quieter—facility-level air handlers to move air around them and keep them cool. "This may be the quiet data center way of the future," he says.

Most of all, don't think of noise abatement as only a way to avoid problems with OSHA. Noise can cut into productivity and worker satisfaction. If you have an IT manager who primarily uses his cell phone, and you know you won't be able to reach him in the data center because he won't hear it, that's a productivity problem. If workers constantly have to move to somewhere quieter to make themselves heard or understood, that's also a productivity problem. "You can lose close to an hour a day of productive time in particularly noisy environments," Sensear's Cannington says.

> "Even when noise levels aren't as high as other industries, noise does have an impact on communication [and] stress, and there have even been some reports that connect noise with heart disease."
>
> *- Sensear's David Cannington*

Noise Levels According To OSHA

OSHA considers four factors in determining noise levels:

- The loudness of the noise as measured in decibels
- The duration of each employee's exposure to the noise
- Whether employees move between work areas with different noise levels
- Whether noise is generated from one or multiple sources

As noise levels get higher, companies can expose their employees to the noise for less and less time before providing hearing protection. For example, with employee exposure of eight hours at noise levels of 85dB, companies must provide a hearing conservation program, which includes regular hearing testing for affected employees; however, at 95dB for just four hours, companies are also required to provide hearing protection.

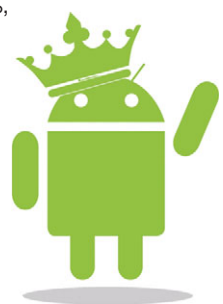
News

Dell Revenue Announced

Dell reported strong profits for the third quarter, but its revenue fell short of Wall Street estimates. Third quarter revenue fell to $15.37 billion; analysts had expected about $15.7 billion. The company's net income rose to $893 million. Dell has begun to turn its focus away from consumer products and toward technologies and services for SMBs and government agencies, which are more profitable. Dell said its revenue will increase 1 to 5% this fiscal year, but it expects slow sales in the United States and Europe for the rest of the year. A shortage of hard drives caused by flooding in Thailand will also hurt sales, the company said.

Gartner: Android Passes 50% Market Share

Gartner's third quarter smartphone sales figures show that Android's market share has reached 52.5%, compared to 25% one year ago. That's the first time Android's share has passed 50%. Apple's iOS market share dropped to 15% from 17% a year ago, Gartner says. RIM's share dropped to 11% from 15%, and Nokia's Symbian OS plunged to 17% from 36%. Third quarter smartphone sales worldwide increased 42% to 115 million, Gartner says, including 60.5 million Android devices. Gartner's data also shows that Samsung sold 24 million smartphones during the quarter, making it the world's largest smartphone manufacturer.



Q3 Microprocessor Revenue Reaches $10.7 Billion

Research firm IDC reported that worldwide PC microprocessor revenue reached $10.7 billion in the third quarter, a 16.1% increase from the same quarter last year. IDC also said that average selling prices for microprocessors are at their highest point since the first quarter of 2008. Integrated graphics chips from Intel and AMD accounted for almost three-quarters of the total processor shipments during the third quarter. According to IDC, Intel held 80.2% of the market, a 0.9% increase from the second quarter. AMD's market share was 19.7%, a decline of 0.7% since its fiscal third quarter.

SAP Announces China Expansion

Software company SAP announced plans to invest more than $2 billion over the next four years to expand its business in China. SAP will hire about 2,000 more employees, nearly doubling its workforce in China, and open five to six new offices. The company currently has about 2,600 employees in China with offices in Beijing, Shanghai, and other cities. SAP says the new offices will mainly focus on new products and services for its Chinese clients. The Asia-Pacific region made up about 10% of the company's revenue in the third quarter.

HOW TO

Prepare Your Company To Tackle Security Risks

Take A Good, Long Look Inward

Judging how prepared an organization is to thwart security attacks is a bit like coaching a football team. No matter how many hours the team practices, it won't know how good it is until it's actually challenged. Where security is concerned, Jeff Falcon, senior specialist in the network security practice at CDW (www.cdw.com), advises IT to accept that threats will emerge no matter how much time, effort, and money they invest in threat protection.

The real aim, according to Falcon, should be determining "how quickly we can minimize and recover from bad things happening in our environment . . . not about trying to prevent every bad thing from happening in the first place." Accepting this will help drive the need to provide continual process improvements, build awareness and education, modernize security policies, and adapt with the threat landscape, Falcon says. To that end, keep the following in mind when gauging your company security preparedness.

Areas Of Concern

Unfortunately, a major security preparedness concern for some IT is convincing upper management of the seriousness of implementing strong security, as well as embracing the idea that security risks are ever-changing and a cost of doing business. As Falcon says, "The threat environment today isn't the same as it was yesterday, literally. Corporate insider threats, organized crime, and nation-state-sponsored threat actors are all relevant and cannot be ignored."

What's primarily at risk for companies is data. Thus, discovering, classifying, and prioritizing data is a must. Von Williams, director of information security, audit, and compliance for Logicalis (www.logicalis.com), says companies should determine who has access to data, whether data is being regularly backed up and taken offsite, whether adequate security controls are in place to protect data, and whether the company is prepared to recover if data is compromised or must be restored quickly. Falcon advises developing a knowledgebase that notes where high-value data resides and exits the organization and who has access and should have access to it.

Another concern is identifying each entry point into the organization, including physical ones. Dan Olds, of Gabriel Consulting Group, says, "The basic idea is to take an objective look at the potential entry points into your organization's data infrastructure and to objectively assess the risk and the cost of insuring against that risk." Most small and medium-sized companies secure entry points through client systems, he says. Less obvious steps, such as verifying physical security or ensuring employees are only accessing data they truly need, can slip through the cracks, according to Olds.

Tools Of The Trade

On the perimeter, Williams advises installing a commercial-grade firewall with all ports disabled except those required to support the business. Also install a commercial-grade IPS to detect suspicious activity and malicious code. Servers should have the latest OS patches applied, only have services required to support the business enabled, and have antivirus protection running, he says. "Firewalls, IPS, and servers should write their logs to a centralized logging server that's monitored on a regular basis for abnormal activity," he says. "A good log correlation program is also a must for analyzing the logs." Elsewhere, a disaster-recovery plan that's tested annually should be in place to address outages due to DoS or virus attacks, he says.

Olds says, "Every entry point needs to be secured, meaning that every system needs some sort of security protection." Security gateways filtering all incoming/outgoing traffic are a good step for small or medium-sized organizations, he says, but "these aren't a panacea, and [companies] need to have other lines of defense, as well. They also need tools that will probe their defenses and actually use them on a periodic basis."

Falcon says the more agile organizations are in prioritizing and highlighting suspicious events in an automated fashion, "the faster they can minimize or close the surface area of an attack. SIEM (security incident and event management) solutions are a great way to continually monitor and improve a data center's security posture."

Look Outside

Arguably, the best method to determine how prepared a company is security-wise is hiring an objective third party to assess risks, vulnerabilities, and security infrastructure. As Williams says, a certified security company that performs an in-depth audit can result in receiving recommendations for what's required to make the environment more secure. Olds heartily recommends using such services, saying, "Having a third party go all out to get your data will probably expose vulnerabilities that data center personnel might have let occur over time or maybe overlooked altogether."

The costs associated with acquiring and implementing such security tools can vary widely depending on the company's size and scope, compliance requirements it must abide by, the amount of risk it's willing to live with, the assets it must protect, and other factors. "Many business-side managers seem to feel that security is too expensive, which is natural. In their minds, it doesn't add to the bottom line, so they don't want to invest in it. However, data center managers need to make sure that the business side fully understands the risks involved and the potential financial consequences if they have a major breach," Olds says.

Regardless of a company's size, Falcon says, most businesses can't "invest in and properly deploy every tool on the market; thus, the better an organization does at architecting and monitoring a flexible architecture to secure high-value assets, the better off that organization will be in the long run."

Possible Obstacles

Pitfalls that IT may encounter along the way include discovering they don't know where sensitive company data is stored, they're underfunded and understaffed, and management is overly confident it has all bases covered. "It's easy to give up or take your eye off the ball," Falcon says. "It's imperative to ensure that there is proper executive sponsorship to exert IT efforts effectively, to manage risk, and support the security of high-value data and intellectual property." If not, he says, the organization "may be faced with the reactive, fire-fighting efforts that can bog down corporate initiatives." P

Key Points

- Convincing management that security is worth heavily investing in is a hurdle IT may have to clear.
- Hiring a third-party auditing firm to assess vulnerabilities and the company's security infrastructure is arguably the most effective measure available.
- Continually assessing security infrastructure and applying patches, updates, and upgrades as they become available is imperative.

Action Plan

- Convince management that dealing with security risks is a part of doing business.
- Discover where company data is located, classify it, determine who has and should have access, and put a backup and restore plan in place.
- Identify each entry point into your organization, including physical ones.
- Install firewall, antivirus, IPS, Internet gateway, logging, and other security tools.
- Implement a thorough patch, upgrade, and update management program.
- Continually assess security risks and vulnerabilities.
- Consider hiring a third party to assess the company's security infrastructure and develop a security strategy.

Top Tips

- ✔ **Update, update, update.** "Religiously, or even maniacally, update your security system and peripheral software when new patches are released. Test to make sure that they're working as advertised," says Gabriel Consulting Group's Dan Olds.
- ✔ **Always be assessing.** Develop a daily operations security checklist someone is responsible for overseeing and perform an annual penetration test that attempts to exploit vulnerabilities to see how deep into the company's environment they can go, says Von Williams of Logicalis.
- ✔ **Ease the pain.** Acquire multiple security products from the same vendor to reduce the learning curve and number of devices IT must learn, Olds says.

3 Tips For Buying Used Or Refurbished Equipment

Spare Yourself Aggravation While Saving Money

Whether the slow economy has dealt you deep budget cuts or squeezing the most out of every dollar is just business as usual, opting for used and refurbished gear can help you stretch your budget further. Savings between 30 and 75% are common, depending on the equipment's age. "Savvy buyers can capitalize on the steep declines in computer hardware over time," says Morris Scott, president of DMD Systems Recovery (www.dmdsystems.com).

Here are the three pointers for maximizing savings while minimizing headaches in the used market.

✔ *Go with an established reseller.*

There's no shortage of sources for used gear and refurbs, whether it's via company bankruptcies, liquidators, leasing companies disposing of hardware rotated out of service, and so on.

The gamble here, according to Tom Hansen, president of Elarasys Worldwide (www.elarasys.com), is that these sources may not thoroughly test the equipment, load it with the proper firmware, properly pack it for shipment, or be ready to furnish support if there's a problem.

"The only source of this level of service is a company that specializes in the secondary market," Hansen says.

In addition, transactions here can go both ways, something to consider if you have used equipment of your own to trade in. "[Reseller] firms are also best qualified to offer top dollar for the trade, given their knowledge of the secondary market," Hansen says.

According to Sean Blackburn, sales manager at Northwest Remarketing (www.nwrusa.com), "Some of the main ideas to keep in mind when choosing a vendor would be reliability, speed (or the time it takes to get a customer their gear), and the amount of money they would be saving buying refurbished." He also recommends looking for resellers that know the equipment they're selling and that test their stock thoroughly before putting it on the market.

✔ *Understand your business needs so you can determine the ideal mix of new and used gear.*

Different types of hardware evolve at radically different rates. Servers and PCs move toward obsolescence far more rapidly than foundational network components. An analysis of where you need speed and power, and where you don't, will guide your allocation of new and used equipment.

"When the new product option offers a speed or technical advantage not previously offered, it may be best to proceed with this new product," Hansen says. For other equipment, the money you'll save with used and refurbs can justify their purchase. "Examples of used products you should target include memory, switches, and routers," he adds.

"One of the best ways for a client to choose whether to buy new or used is the cost," Blackburn says, citing huge price differences between brand-new equipment and gear that's only a year or two old. Additionally, he says, "sometimes on the older gear it just makes financial sense to have a hot working spare on the shelf."

✔ *Know who you're dealing with.*

Before doing business with any seller for the first time, it's a good idea to conduct background research. "If it's a large purchase, you can check their affiliations [and] credit reports and ask if they have a list of clients that you may contact," Scott says.

If you're interested in cultivating a long-term relationship with a reseller for future equipment purchases, Scott recommends starting with a few smaller purchases to gauge how well the company delivers on its promises. "Get warranties in writing," he adds. "Using signed purchase agreements for larger acquisitions is always helpful."

"Check references and the reseller's product knowledge," Hansen adds. "This and a documented list of steps followed by the reseller are great ways to confirm your supplier and to reassure yourself that your business partner is experienced and ready to stand behind the entire transaction." P

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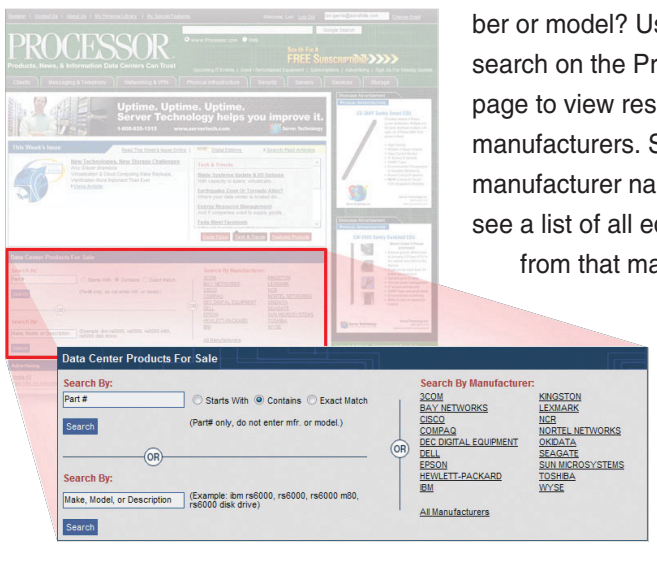
From Processor's home page (www.processor.com), you can search for a specific part number, make, model, or description. Enter the information in the appropriate box and click Search. You'll see a list of available equipment. If you don't see the particular piece you're looking for, scroll to the bottom of the search results page to conduct a more detailed search. There, you can search by part number, model, price, location, and more.



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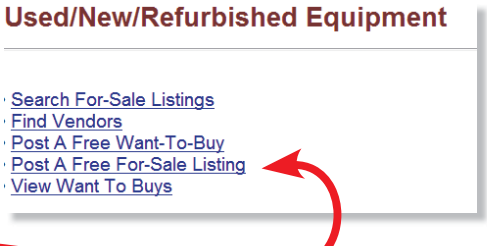

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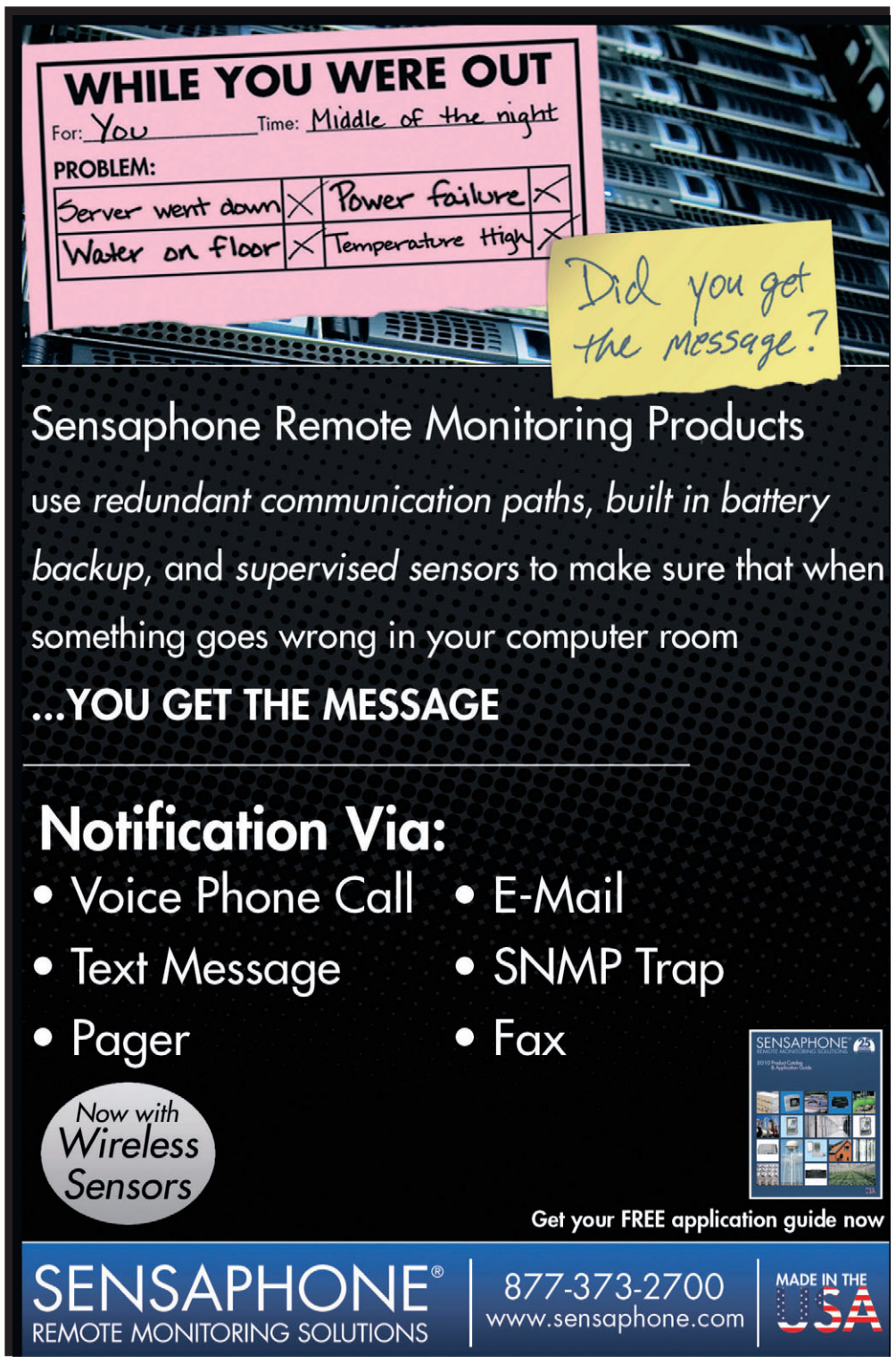

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SIX QUICK TIPS

Optimize Your Servers

Get More Performance From Existing Setups

When you start to notice the performance of your servers dipping even a little bit or you see a new server that would be faster than the one you currently have, your knee-jerk reaction may be to go for a complete infrastructure overhaul. But it can be a costly undertaking to regularly upgrade your servers when you aren't getting the performance you want or every time new server technology is introduced.

Before you opt for a potentially expensive investment in new infrastructure, consider some of the simple ways you can optimize your existing servers and increase overall performance. Here are a few tips that will help you decide if you can optimize your existing servers or if your best option is to upgrade.

✔ Understand Performance Indicators & Predict Possible Issues

Before you consider optimizing or upgrading your servers, you should first make sure that there are actual reasons to do so or that there is a potential for problems in the future. There are tell-tale signs, such as noticeable slowdowns in performance, data bottlenecks, and others, but you may need to go more in-depth to find other indicators.

"Hardware health metrics are a good leading indicator of future server performance issues and often go ignored when monitoring server health," says Suku Krishnaraj, senior vice president of product strategy at SolarWinds (www.solarwinds.com). "Server performance tools can discover processes and report out hardware metrics."

Another indicator to look out for is the capacity of your servers. Theoretically, all servers have a maximum capacity of 100%, but the main goal should be to get at least 70% if not 80% from all of your servers. This ensures that you are getting the most out of your hardware and you don't resort to upgrading when it isn't necessary.

"If you've invested money in servers, make sure they are running near 70% capacity during daily busy times and at least 40% during low periods so that you are sure you are getting everything you can from that hardware," says David Leith, technical product manager at Uptime Software (www.uptimesoftware.com). "We find that a large number of companies we work with run their servers below 30% capacity and are still adding more servers; this is a huge waste of resources."

✔ Invest In Monitoring Software

Another way to decide whether you need to make adjustments to your servers and whether those adjustments are making a difference is to purchase monitoring software for both servers and applications. This will let you know if your servers are performing as they should be in multiple areas as well as tell you how many resources your applications are using. These solutions serve as real-time monitoring tools and much more.

"Server monitoring tools with deep visibility into hardware, virtualization, and application workloads are essential for understanding your environment and making educated decisions about hardware upgrades," Leith says. "They can also provide early warning alerts when capacity problems are going to impact your mission-critical applications."

To ensure that you are getting that extra performance without taxing your hardware even more or spending unnecessary money, Krishnaraj recommends looking at both agent-based and agentless server monitoring tools, but says that agentless solutions are better for SMEs because they "remotely collect metrics without consuming hardware resources" and provide a more accurate view of server performance.

✔ Know What Applications Are Running On Which Servers

Sometimes improving server performance is as simple as understanding your applications and how much server capacity they use. One way to lower the amount of hardware resources an application uses is to virtualize it. If that isn't an option, take a look at the applications on each server and determine whether they are truly necessary or are simply a burden on your servers.

"If your [server] farm is being used purely for collaboration and sharing, there isn't any need to run business intelligence-related service applications," says Sean P. McDonough, product manager at Idera (www.idera.com). "Run only the service applications you need in order to stay lean. If you need additional service applications later on, you can always provision them at that time."

✔ Know When It's Time To Upgrade

Krishnaraj, Leith, and McDonough share some instances where a server upgrade may be necessary or, at the least, advisable:

"If you have taken the performance optimization steps above and your CPU and memory usage is still at about 80% and you've exhausted your memory upgrade slots, it's definitely time to invest in a new server," Krishnaraj says. "Another driver could be warranty expiration dates."

"Technology improves so quickly that any server over three years old may simply be cheaper and easier to replace than to upgrade," Leith says. "In environments where virtualization hasn't been utilized, it's almost always better to replace several outdated servers with a new virtualization-optimized server."

"The most common time to re-evaluate whether or not to start over is between SharePoint versions," says McDonough, specifically referencing SharePoint servers. "The raw minimum requirements for a SharePoint 2010 server, for example, are a 64-bit quad-core processor, 8GB of RAM, and an 80GB system drive. These are dramatically greater than the requirements for a SharePoint 2007 server, and many organizations who used SharePoint 2007 considered the migration period to be a good time to acquire new hardware." P

Best Cost-Cutting Tip:

✔ *Perform Tweaks To Avoid Massive Upgrades*

To avoid upgrading entire servers, there may be a few simple tweaks you can make or simple tools you can take advantage of to get a little more out of them. "Basic workload analysis, balancing, and tuning cost nearly nothing outside of labor," says David Leith, technical product manager at Uptime Software (www.uptimesoftware.com). "Some capacity tools are expensive initially but will save you money by delaying nonessential upgrade costs or finding untapped resources. They can pay for themselves many times over in a growing data center."

Best Customer Service Tip:

✔ *Consider End-User Monitoring Tools*

"Keeping servers up and running is a good goal, but it doesn't guarantee customer service, especially if you are providing services via the Web," says Suku Krishnaraj, senior vice president of product strategy at SolarWinds (www.solarwinds.com). "All servers may be 100% available, but your end users may still be unable to log in to their portal because of the applications not being optimized. In these cases, especially if you have limited budget, you may want to look at end-user monitoring tools. They tend to be an inexpensive and extremely effective way to measure availability and performance of your Web from an end-user perspective."

BONUS TIPS:

✔ *Defragment your hard drive for a boost.*

Hard drives in servers can often get bogged down with the constant reading and writing from intense applications. If you haven't defragmented your drives for an extended period of time, it could help explain a sudden drop in overall server performance.

✔ *Check for weak links in your server farm.*

According to Sean P. McDonough, product manager at Idera (www.idera.com), "the most important thing to understand is that a server farm's overall performance is only as strong as its weakest link." He suggests monitoring your servers and comparing them side by side to ensure that all of them are running at their highest capacity.

PROCESSOR

Upcoming IT Events

Network With Your Peers At These IT Training & Association Meetings Across The United States

DECEMBER

Central Plains ISSA
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Wichita Marriott Restaurant
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Wichita, Kan.
issa-cp.org

TakeDownCon 2
Dec. 2-7
The M Resort
Las Vegas
Henderson, Nev.
www.takedowncon.com

AITP Research Triangle Park
Dec. 8
University Club
4200 Hillsboro St.
Raleigh, N.C.
www.rtp-aitp.org

Data Connectors
Phoenix Tech-Security Conference
Dec. 8
The Buttes
2000 Westcourt Way
Tempe, Ariz.
www.dataconnectors.com
/events/2011/12Phoenix/inv_ex.asp

SQL Server Society of Las Vegas
Dec. 8
sssolv.com

AITP Greater Wheeling
Dec. 13, 5:30 p.m.
The White Palace
at Wheeling Park
1801 National Road
Wheeling, W.Va.
www.aitp-wheeling.org

AFCOM
Central Texas
Dec. 15, 11:30 a.m.
to 1:30 p.m.
Marie Callender's Restaurant
9503 Research Blvd.
Austin, Texas
www.afcom.com/afcomnew
/CentralTexas.HTML

Data Connectors
Ft. Lauderdale
Tech-Security
Conference
Dec. 15
Ft. Lauderdale, Fla.
www.dataconnectors.com
/events/2011/12FtLauderdale
/agenda.asp

ISACA-Kentuckiana
Dec. 15
Louisville, Ky.
www.isacaky.org

ISSA
Northern Virginia
Dec. 15, 5:30 p.m.
issa-nova.org

ISSA
South Florida
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AITP
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www.issa-midtn.org

ISSA Metro Atlanta
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www.gaissa.org

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Processor Solutions Directory

Here are brief snapshots of several companies offering products designed for the data center and IT industry.

Listings are sorted by category, making it easy for you to find and compare companies offering the products and services you need.

You can find more detailed information on these companies and the products they offer inside this issue.

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Products Sold:

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(888) 751-7387 I pdusdirect.com

Physical Infrastructure

BURK TECHNOLOGY

Burk Technology, based out of Littleton, Mass., has been manufacturing monitoring, control, and management products for more than 25 years. In that time, Burk has focused on evolving the design and function of its solutions based on consumer and industry demands. Burk believes in quality customer service and provides free, unlimited support for all of its products.

Products Sold:

Server room environmental monitoring, remote control and monitoring, and management solutions as well as alarm reporting and event logging applications.

(800) 255-8090 | www.burk.com

Physical Infrastructure

SIMPLEX™
ISOLATION SYSTEMS

Since 1979, Simplex Isolation Systems has been setting new design standards in modular expandable cleanroom components, isolation curtains, hardware, and new product development. Fontana, Calif.,-based Simplex's unique strip doors and mounting systems are designed for quick installation. Simplex parts and materials perform with optimum efficiency, last longer, and save you money. And with Simplex, you are always backed by industry expertise, product knowledge, and the best warranties in the market.

Products Sold:

- Cleanrooms
- Enclosures
- Strip doors
- Curtains

(877) 746-7540 I www.simplexisolationsystems.com

Physical Infrastructure

Staco Energy Products Co.

Staco Energy was founded in 1937 and is one of the longest-lasting innovators of power products and services in the world. Our recent innovations have created the foundation for entry into the SMB data center marketplace through pioneered design and expertise. We are committed to providing you with the best tailored power solutions for your needs.

Products Sold:

A full line of UPS products, including our new FirstLine P 80 – 125kVA UPS, FirstLine PL 10 – 100kVA UPS, FirstLine BMS, and related accessories and services.

(866) 261-1191 I www.stacoenergy.com

Physical Infrastructure

BayTech

BayTech was founded in 1976 and, since the 1990s, has developed unique products for remote power management. The company uses printed circuit board instead of wires for a better, more resilient connection between the data center equipment and the receptacle. BayTech provides an extensive Web site with brochure downloads, warranty information, and reseller support and also offers evaluation units for data centers.

Products Sold:

- Power control, distribution, management, and metering
- Power transfer switches
- Console management and remote site management

(800) 523-2702 I www.baytech.net

Physical Infrastructure

RackSolutions

RackSolutions has been serving the data center market for more than 10 years. All of our products are designed, engineered, built, and shipped under our own roof. We have product solutions available for every major OEM, but if one of our existing products doesn't fit your needs, our top-notch mechanical and electrical engineers can create the item you need from scratch, solving even the toughest installation design challenges. Best of all, we typically don't charge up-front fees for design services.

Products Sold:

Computer server racks, cabinets, shelves, and mounting products.

(888) 903-7225 I www.racksolutions.com

Physical Infrastructure

AVTECH

AVTECH Software, founded in 1988, is focused on making the monitoring and management of systems, servers, networks, and data center environments easier. AVTECH provides powerful, easy-to-use software and hardware that saves organizations time and money while improving operational efficiency and preparedness. AVTECH products use advanced alerting technologies to communicate critical status information and can perform automatic corrective actions.

Products Sold:

A full range of products that monitor the IT and facilities environment, including temperature, humidity, power, flood, room entry, and UPS

(888) 220-6700 I www.AVTECH.com

Storage

iStarUSA® Group

Boasting more than 20 years of experience in the industrial computing market, iStarUSA Group has made its mark in the design and manufacture of rackmount chassis, industrial power supplies, data storage, enclosed cabinets and racks, and custom power solutions. The group reaches a number of vertical markets via its five divisions: Claypower, Claytek, iStarUSA, RaidAge, and Xeal.

Products Sold:

- Claypower: Custom power
- Claytek: Racks and enclosures
- iStarUSA: Industrial chassis
- RaidAge: Data storage
- Xeal: Industrial power

(888) 989-1189 | www.istarusa.com

Storage

OCZ Technology

The OCZ Technology Group has been offering enterprise class solutions for many years and OCZe (OCZ enterprise) represents the company's offerings that cater specifically to the unique needs of both Enterprise and OEM clients. These innovative products are designed and manufactured to solve problems and deliver improved total cost of ownership (TCO) to clients requiring enterprise class solutions.

Products Sold:

- Solid State Drives
- Power Management

(408) 733-8400 I oemsales@oczenterprise.com

Storage

WeBuyUsedTape.net

WeBuyUsedTape has been in the business of purchasing new, used, excess, and surplus magnetic media for more than 35 years. Our regulation-approved, secure data eradication processes and environmentally friendly disposal programs give organizations a safe and economic incentive for recycling used media. Customer service is one of our top priorities, backed by helpful, knowledgeable, and efficient team members. Obtain a no-obligation, confidential quote on your tape media today.

Services Offered:

Tape media buyback, secure data eradication, media disposal, and recycling

(800) 821-1782 I www.WeBuyUsedTape.net

Security

Milton Security Group

Milton Security Group LLC is at the forefront of new developments in network security technology that provide the framework in the most demanding security environments worldwide. We guide our customers to success in an information-driven world by supplying exceptional customer service, delivering top-notch products and engaging partner programs. Milton Security Group is a Veteran-Owned Small Business security company with a consulting practice.

Products Sold:

- Access control and security scanning
- Network management

(888) 674-9001 I www.miltonsecurity.com

Servers

Supermicro®

Supermicro® (NASDAQ: SMCI), the leading innovator in high-performance, high-efficiency server technology ,is a premier provider of advanced server Building Block Solutions® for enterprise IT, data center, cloud computing, HPC, and embedded systems worldwide. Supermicro is committed to protecting the environment through its "We Keep IT Green®" initiative by providing customers with the most energy-efficient, environmentally-friendly solutions available on the market.

Products Sold:

- Servers
- Motherboards
- Chassis
- Network switches
- Storage solutions
- Blade servers
- GPU servers
- Embedded

(408) 503-8000 I www.supermicro.com

Equipment Dealer

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Products Sold:

We buy used cell phones & PDAs, including Apple, LG, Blackberry, HTC, Motorola, Nextel, Nokia, PalmOne & Samsung.

(800) 248-5360 I www.pacebutler.com

Clients

dtSearch®

www.dtsearch.com

Maryland-based dtSearch started research and development in text retrieval in 1988. The company is known for speedy adoption of new programming standards, OSes, and file types. Plus, it has a flexible licensing model. Typical corporate use of dtSearch includes general information retrieval, Internet and intranet site searching, and email archiving and email filtering.

Products Sold:

Text retrieval products, including:

- Desktop With Spider
- Network With Spider
- Publish For CD/DVDs
- Web With Spider
- Engine For Win & .NET
- Engine For Linux

(800) 483-4637 I www.dtsearch.com

Services

CBT XPress

IT Certification Bootcamp Training

CBT XPress, a Division of CBT Campus, LLC, is the internationally recognized premier provider of Information Technology Certification Boot Camps.

Our acclaimed IT Boot Camp training offers you the opportunity to attend our classes in beautiful Tampa Bay, Florida or schedule our instructors to come directly to your organization! Either way, you will be able to attend class and sit for your certification exams all in one location.

Through our partnerships with the IT Industry's leading technology developers, learning content publishers and testing centers, we have developed certification classroom instruction that is second to none!

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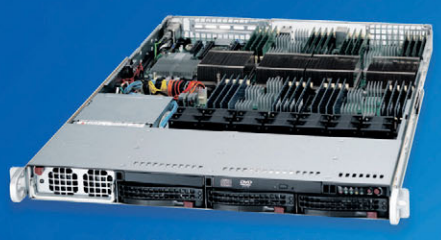

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